CHICAGO
USERS GROUP

PRESENTS

CHICAGO TIMES

NEWSLETTER OF THE CHICAGO TI-99/4A USERS GROUP

WHEN YOU NEED US
WE'RE HERE

APRIL 30, 1987
EDITOR: Carole Goldstein

THE MAY MEETING. . . .
will be held on Saturday MAY 2, 1987 from 1:00 to 3:00 in the Fireside Lounge at Triton College. Featured at this meeting will be the contest winners and a demo of the TRITON TURBO XT.

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Artwork by Buzz Krantz and Dan Gronowski

BULLETINS:

UG HOT LINE NUMBER IS (312)657-1093.

The Beginners SIG will meet shortly after the meeting.

The Pascal SIG will meet shortly after the regular meeting.

MEETING DATES FOR THIS COMING YEAR ARE AS FOLLOWS:

MAY 2 (Ironwood Room)	OCT 3
JUNE 5	NOV 7 (TI FAIRE)
SEPT 12	DEC 5

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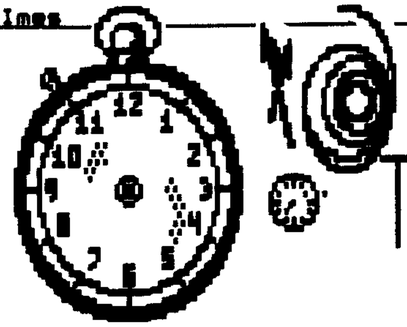


THE DISASSEMBLY

Dave Wakely

Last meeting; next meeting; surveys; Turbo XT arrives (and departs?); other THings:

I couldn't be at the last meeting, but I have it on good authority that the April meeting was an unexpected success thanks to the quick thinking of several of our members. Of course, successful Chicago TI Users' Group meetings are not usually unexpected, except when the member bringing all three of the systems for the meeting does not show up. A small group headed by Sam Pincus fielded questions from those in attendance, and this is apparently something we should have scheduled earlier, judging by the interest it generated. Long-time group members may recall that such sessions were at one time a regular part of our meetings. On the dark side, however, is the explanation that the reason those systems didn't make it is because group Librarian Bob Demeter apparently suffered what was later diagnosed as a "very mild" heart attack on the way to the meeting. The latest word is that Bob has been released from the hospital and is already back at work. I am somewhat concerned about the amount of stress that the group library work puts on Bob, and I urge patience to those of you who have not yet received your library programs from him. Bob, slow down, we'll wait for you!

Keyboard of Fortune: At the May meeting the winners of our fifth annual programming contest will be announced, the prizes awarded, and the winners asked to demo their entries for us. We received 14 or 15 entries in all, a continuation of the declining number in recent years. If the programs have merit, however, we still plan to split the $300 in prizes among the top five entries. If time permits, we may also get to some of the demos we were going to do in April. Vox Populi: The members have spoken and the surveys are already coming in. I have received 130 so far, and no doubt there are more to come. If you haven't completed it yet, please take the time to fill out the questionnaire which was in the April newsletter. Your input will help us prepare for the future of the group. I anticipate having the results in the Super Summer Issue. There will be totals and percentages for each specific question, and a summary of your comments. You will not be a part of this process if we don't receive your completed form by June. Just bring it to either of the remaining two meetings before summer, or mail it to the group address on the back of the newsletter. Your group thanks you.

Turbo or not Turbo: It was just after the last meeting that the Triton Turbo XT I have written about and ordered back in January finally arrived. By now many of you have seen the brochure and have some questions, and what you want to know is, "what can it do for me?" Well, as advertised, it does indeed let you run an IBM PC/XT clone from your TI-99/4A keyboard. In fact, some of this column has been written using it. As I noted a few months back in the initial comments about it, the key to this system is the "bridge box", a small peripheral, about the width of two speech synthesizers and slightly longer, which plugs into the side of the /4A

console. What this unit essentially does is convince the Turbo XT that your 99/4A console is actually an IBM compatible keyboard. I haven't taken it apart, but the information I have says that it does this "through software and hardware control inside the bridge box".

I suppose this is also as good a place as any to begin a review. Those of you with absolutely no interest in this unit or IBM compatibility in general can feel free to skip down to the last paragraph or two of this column. Meanwhile, those of you remaining who are familiar with IBM keyboards are either now chuckling to yourselves or shaking your heads in wonder. This is because IBM keyboards typically have between 96 and 102 keys, while the TI has 48 (or 49 if yours has been modified like mine). So how do they do it? With "switches" which give you no less than four "different" keyboards, that's how. The start-up default is the "standard" TI keyboard, sort of. Everything is as you know it, except that FCTN 3 is now "End" instead of "Erase", FCTN 4 is "PgUp" instead of "Clear", etc., as well as a few others on the top row. Cursor movement is by the usual FCTN S,D,E, and X, and the alphanumeric keys are still the alphanumeric keys. All those other IBM keys, however, can only be accessed by switching to the OPT1 or OPT2 or OPT1 OPT2 keyboards.

By holding down the FCTN key while hitting the SHIFT key, for example, a small section of the bridge box lights up which says "OPT1". In this mode, there are no longer any number keys. Pressing "1" now gives me "Delete" directly, with no need to hold down FCTN, "2" is now "Insert", etc. All other keys are unchanged. The main function of this mode however, is to give the user access to keystrokes such as SHIFT DEL or CTRL DEL, which may be required by an IBM application program. For example, if for some reason I needed to execute SHIFT DEL 5, here is the sequence on the TI: 1) hold down FCTN while hitting SHIFT (to get to OPT1); 2) hold down SHIFT while hitting "1" (which is now "Del"); 3) again hold down FCTN while hitting SHIFT (to toggle back to the default keyboard-OPT1 light goes out); 4) hit "5". Easy, right? And on an IBM keyboard: 1) hold down SHIFT while hitting DEL; 2) hit "5". Luckily, these kind of sequences don't come up terribly often, except in applications like word processors, which of course happens to be what I most frequently use. If you are not yet completely confused, consider that we are only half way through the keyboard options. Onward:

Holding down FCTN while hitting ENTER gets you to the OPT2 keyboard. Here the changes are substantial. A different light on the bridge box goes on, and it appropriately says "OPT2". The number keys from 1 to 0 are now IBM F1 through F10 function keys directly, that is, without the need to hold down the FCTN key on the TI. The TI key labeled "1" is now IBM F1, etc. Similarly, any TI key which formerly required FCTN is now directly accessed, for example, ? or ' or ", etc., but of course there are thus no alphanumeric keys in this mode. There are a few other good things about OPT2 mode, such as the ability to use the arrow keys (S,D,E,X) without holding down the FCTN key, but I am already getting tired of talking about the keyboards, so let me wrap this part up by noting that if you execute FCTN SHIFT FCTN ENTER this turns on both the OPT1 and OPT2 lights. In this mode the TI number keys become the IBM key pad keys with NUM LOCK on. I could go into boring detail as to what this means, but trust me that there are rare times and programs where you will want and need to do this. Some of you IBM users who are more observant and still awake may be wondering about the IBM ALT key. By any chance did I neglect to mention that in any mode if you hold down FCTN while hitting CTRL that a small light on the bridge box goes on which says "ALT", and that this means that

the CTRL key is now the ALT key? I didn't, did I? I knew it.

I can't leave this topic, however, without quoting the Bridge Box Users Manual. "The various XT keyboard modes are harder to describe than they are to use. After you have used them a few times, we believe that you will find them quite easy." Well, yes and no. There is some truth to this, but it also sounds suspiciously like what they initially told me in high school about Latin. To be fair, however, I should point out that the unit comes with a triple-height overlay strip for the top of your TI keyboard which sort of indicates most of the changes above, with one row for each different "keyboard", as well as some other useful information. Overall, it is invaluable. For example, given my above comments about the ALT key, REALLY observant IBM users will want to know how to reboot, which is CTRL-ALT-DEL. If you hold down FCTN and hit CTRL to get ALT, how do you simultaneously hold down CTRL itself, not to mention DEL? According to the keyboard overlay the answer is: "Reboot XT - FCTN CTRL =" That is, the old TI FCTN = (quit), with CTRL thrown in. This information is nowhere else in the documentation, and I know this because the overlay strip is the last place I looked for it. This also provides me with a segue to the documentation which comes with the Turbo XT.

After I had unpacked the two boxes which arrived, I located a total of five different manuals. I did not order the disk operating system (DOS) with my unit, so all of the manuals were hardware manuals. It was evident from this collection just what Triton has done. This entire system has been "assembled" by Triton from available components. Of the five manuals, only one appears to have been prepared by Triton. This is the "Triton Turbo XT" manual. This is an approximately 130 page, IBM style 3-hole punched guide to the main system unit. In this manual there is absolutely no mention or reference to the TI-99/4A or to the bridge box. Triton normally sells the Turbo XT with a keyboard as a straight IBM clone, and this is the manual for it. As such, it is adequate as far as it goes. It has no index, but does have a fairly detailed table of contents. Its chapters cover "Setting up", "Getting started", "The keyboard" (NOT the bridge box TI version), "Introduction to the Disk Operating System", etc. It is nowhere near the quality of IBM documentation, or the volume of information I received with my Zenith clone, but it will get you started easily if you have some previous experience with MS- DOS computers.

Packed with the bridge box unit was the "Triton Turbo XT Bridge Box Users Manual". Perhaps it is because of previous information in the TI community that Miller's Graphics was involved in the bridge box design, but this 19 page manual looks to me like some of the manuals for MG software. It is similarly clear (as clear as possible given the keyboard mess described above), and guides the user as to the hook up procedures. There is a short table of contents, adequate to find something you may need to look up after installation. After a few hours use I have found that I am relying more on the keyboard strip and less on the detailed keyboard pictures in this manual to find the correct keys on the TI, but it is nice to know they are there. The manual also provides some trouble shooting information in case of problems, and provides clear information on how to change default modes. For example, like all TI "intelligent peripherals", the bridge box has its own CRU Base address (default = 1900), which should not interfere with existing and known TI peripherals, but which is user changeable to a different address via a set of DIP switches. Likewise, and perhaps more useful, the bridge box default is to start up in XT mode, that is, when everything is turned on you will be in

the MS-DOS environment. Via another switch this can be changed so that the system "comes up" to the familiar TI title screen instead. More on this later. Finally, there is a one page addendum which notes that other tutorial information on the keyboard which comes with the system is incorrect because it is based on the XT keyboard. The addendum gives the correct keys for the TI board.

Next, there was a 28 page "Turbo - 640 Mainboard User's Manual", which is exactly what it says it is. This manual is about, and only about, the XT motherboard which is on the bottom of the Turbo XT case. On the first page is the information that this board is manufactured by Datatech Enterprise Co., Ltd. It also contains "installation" instructions, including power supply, speaker, and RAM chips, as well as information on the configuration switches. All of these, of course, were pre-set when the unit was shipped to me, but it is vital to have this information when you want to change or upgrade the system. The manual also showed what Triton opted not to include. For example, the manual notes that "this motherboard supports both a software switch and a hardware switch for changes between Normal and Turbo modes." Turbo mode is 8 MHz clock speed, Normal mode is the standard IBM 4.77 MHz speed. On the motherboard is a block of four pins and a single jumper. When the jumper is over one set of pins a software Turbo switch is enabled by means of CTRL-ALT--(minus), while when the jumper is over the other set of pins a hardware switch is enabled. Only there is no hardware switch. It turns out there are other sets of jumpers on this board as well. From later in the manual: "Under ideal conditions, your system unit will have all the indicators and switches shown below." The illustration which follows shows a small panel which contains a keylock, a power-on LED, a Turbo switch, a Turbo LED, and a reset (reboot) switch. While on the one hand the Triton Turbo XT has none of these, the manual makes it fairly clear how they could be added. The last few pages of this manual are a technical description of the DMA and I/O channels. The 12 page Color/Graphics Adaptor manual gives no information as to the manufacturer, although it is printed in a different style than the other manuals. It contains information on the adapter's machine-level programming, the registers, and the memory map, and includes a fold- out 17" by 12" schematic. I didn't find it especially inspiring, in fact I found it confusing. This manual states that of the two composite adapters on the back of the board that the top one has color output, while the one below it is monochome only. According to the bridge box manual it is just the opposite. On the other hand, the parallel printer card manual is an 18-page documentation classic. It is titled "The Parallel Printer Card", and on the first page gives the only identifying information, that this is the "PTC-880". This is one of those foreign manuals that we have all run across at one time or another. It was either translated into English by someone in Japan with an English dictionary, or the manual was translated here by someone with a Japanese dictionary. Or maybe it was Korean. Here is an actual, untetouched paragraph from this manual:

> This PTC-880 printer adapter can be adjust the port address by changing the jumper near the lefe down corner there is a block "PORT ADDR",Jumpers can be select the correct address.

Well, that certainly says it all for me. Come to think of it, perhaps the manual was written by Nick Iacovelli. Besides other such words of wisdom, the manual does contain an illustration of the pin-outs on both the adapter and printer ends of the interface, and this is about all I usually want from a printer interface manual anyway.

I guess that leaves the hardware and just how this whole thing works together. The bridge box, now that I look at it here, is probably one of the more amazing kludges for the 99/4A. It has no less than 5 plugs in the back, interconnecting the TI console, the Turbo system unit, and the monitor. Also, I've been saving for you the information that the bridge box requires its own 9 volt power supply adapter. Yes, one more thing to plug in. I will spare you the details of just which plug goes where. The box does what they say it does, I just wish it had done more. For example, it was obvious from the inital documentation that the bus information on the TI system can never communicate with the XT bus, and vice versa. That is, no sharing of disk drives, memory, etc. It probably would have been much more difficult to manage this, but probably worth it to TI owners to have two truly integrated machines. As it is, this is a keyboard and monitor sharing device, nothing more. So why even bother? There are some good reasons I can think of which may be familiar to some of you, and maybe some alternate ways to achieve them.

Back when I got started with the original 99/4, I used the old writing desk that had been passed down to me by my family. It was fine for a 99/4 console and tape recorder. It wasn't too long before I was out purchasing a length of 12" deep shelving board because my side-car peripherals literally would not fit on the desk top. I rigged up a system where they dangled off the end of the desk on the length of shelf, "walking the plank" so to speak. The PE Box changed all that, until I got a second drive, modem and telephone, flip 'n file box, etc., such that the desk was once again full, even after the printer got booted onto an old typewriter stand. When I got my original IBM clone I purchased a computer desk, realized it too wouldn't hold two full systems, and then added a corner adapter and side desk, making one large "L"-shaped table. The Zenith clone, monochrome monitor, IBM disks and software and six outlet plug are on one table, and the TI console, PE Box, TI monitor, TI flip 'n file, modem and telephone are on the other. The printer is on the corner adapter. If I had a mouse for either computer I would literally have no surface on which to write anything. In short, I WANT MY DESK BACK!

There are probably some of you out there saying, "See, you don't stick with TI, this is what you deserve." I understand this, but unfortunately they wouldn't purchase a full 99/4A system for me in the hospital where I work, and my work all but requires me to do some things at home. This also means I need full IBM compatibility, and the Turbo XT promises this. The system unit itself looks about as close to the original IBM XT as you can get. This rather large unit is enclosed in a metal, slide-off type case, and when it is removed reveals what appears to be a standard clone motherboard. One pleasant surprise was the finding that the power supply, which various Triton employees told me was rated either 120 Watt or 135 Watt (depending on which one picked up the phone), was actually a 150 Watter. The documentation stated 8 full-size expansion slots, but I see it as 6 full and 2 half-card slots, probably still more than enough. The reason for this is that the unit can accomodate up to 4 half-height disk drives (hard or floppy), and came with one floppy installed. The power supply in fact has four output plugs to drive them. The two left drives, if installed, would prevent the last two expansion slots from holding full length cards. In just about every other respect, this unit has the chips, the jumpers, the connectors, and the sockets in the same place as the IBM. This may not be very original, but there is some comfort in its predicability. I'm no expert on these things, but the board looks to be well made, the connectors have a "solid" feel to them, and the board traces appear uncommonly "clean". I have run PC-Write, Microsoft Flight

Simulator, Multiplan, a graphics drawing program, etc, without difficulty. There are lots of clones which also have the above characteristics, and this one also has a 30- day satisfaction return and 1 year parts and labor warrantee, which many of them don't.

Problems? The only one so far is that I am not getting any color out of the color/graphics adapter with my TI composite color monitor. As I noted earlier, there is some confusion about this in the manual. When I called Triton I discovered that the employees seem much more knowledgeable about the Turbo now than they did back in January. I was given to a technical person named "Lynn", and she has offered several suggestions I am in the process of trying out. After my initial phone call she called back twice to check on my progress with this problem. I like that. I was also reassured that if this proves to be a problem with the board or system unit that Triton "will take
care of it". I like that too.

I saw the TI/Turbo XT as a way to at least get down to one keyboard and one monitor, giving my desktop a fighting chance. Unfortunately, the bridge box system doesn't give ergonomics (roughly translated "human comfort") a fighting chance. What are the two most important elements in a computer system from a comfort standpoint? Although I am willing to consider the computer chair as equally important, my candidates are the keyboard and the monitor. These happen to be just the areas where the bridge box connection fails. The documentation says something like, "Yes, you can use a color composite monitor with an MS-DOS computer if you turn the color down." My response to this is: "NO, YOU CAN'T!"

What about the ability to "switch" between computers? Yes, when in the middle of an application on the Turbo XT you can press FCTN-CTRL- ENTER and the bridge box will switch to 4A mode. You can then run whatever you want on the TI as usual, and when you quit (FCTN =) you will be immediately returned to the Turbo rather than the color bar screen. The issue of "concurrent processing" in the Turbo brochure is actually a bit much. Yes, whatever you were doing with the Turbo will still be there when you return to it, but NOT the other way around with the TI, since the keyboard and console are busy emulating an XT keyboard. At one point the manual states, "The Bridge Box was designed to allow for concurrent processing by the Triton Turbo XT.", but I would ammend this to read, "The Bridge Box was designed to sell Turbo XTs to 99/4A owners.", but also, as it states in another part of the manual, does technically allow them to use the 4A keyboard and monitor with both systems.

There are a surprising number of ways to remedy some of the problems with this system, as well as my own space problem. One of them is to obtain the Rave 99 keyboard. This is an IBM-like keyboard which replaces the 99/4A board. I am aware that the Rave board itself has several "modes", and is it possible that one or more of them will work well with the bridge box, eliminating the need for the OPT1, OPT2 switching? I will be testing this possibility soon, which would also let me move the TI console off the table all together. Of course, the Real-Soon-Now to be released Geneve already comes with an IBM board, but where do you plug in the bridge box?

On the monitor end, there was a Mack McCormick article in MICROpendium recently quite favorable to the Dijit Systems RGB modification to the TI console. Would such a modification allow me to use one RGB monitor with both the TI and Turbo XT? How would I manage this given that the bridge box expects the TI DIN plug monitor cable? Doesn't the Geneve have an RGB

output? Or is that an analog RGB, while the Turbo is digital RGB?

For a TI newsletter, all this IBM equipment review and speculation has gone on long enough, but many of you wanted more info on the Triton Turbo system, and you now probably have more than you care to. One last option that I am considering is to send back the bridge box and have Triton send me a Turbo keyboard instead. I am then thinking of building a keyboard cable switch box to use with a Rave-modified console. I will then manually switch the keyboard when I want to use the other computer. I would also then get a RGB/Composite monitor (Magnavox makes an inexpensive one) and manually switch modes depending on the computer. I care less about automatic switching than I do about ergonomics and desk space. Whether I do this or not depends on how crazy the bridge box and desk clutter drive me in the next few weeks. To help with the clutter I am thinking of standing my PE Box on end. Has anyone done this? I will keep you posted on these developments, but I also promise in the future to keep IBM stuff out of this column as much as possible if there are no new developments along those lines in the TI world. Is that clapping I hear out there??

SubrouTInes: Don't forget that our second annual Auction is coming up at the June meeting. We need your donations of unused hardware and original package software. These are donations which directly help the group financially support our activities such as the Faire. Look through your TI stuff and see what you can part with for us, okay?...You may have heard that the Chicago Sun Times (hey, where did they get that name?) is looking for someone to replace Ann Landers since she moved to the Tribune, but did you know that Texincia Lubbock is one of the advice columnist finalists? God help us all...

CHICAGO AREA TI99/4A USERS GROUP
SUMMARY OF CASH TRANSACTIONS
MARCH 1-MARCH 31, 1987

	TOTAL	FAIRE	LIBRARY	MEMBER-SHIP	OTHER
RECEIPTS	1,485.12	0.00	306.00	924.00	255.12
DISBURSEMENTS:					
ADVERTISING	123.50			123.50	
MAILING	305.41		13.92	5.94	285.55
PRINTING	47.94			47.94	
SUNDRY	182.43			4.43	178.00
	659.28	0.00	13.92	181.81	463.55
INCREASE IN CASH	825.84	-0.00	292.08	742.19	-208.43

LETTERS

EVIDENTLY, it needs to be said.
by SANDY BARTELS

I would like to say a few words about the Executive Committee that runs this group. This groups' membership has the privilege of having some of the most devoted people in its' governing body, that I have ever come in contact with. These people put in hours of work, taking time from there jobs, family and other interests, to make this one of the best groups in the world. This group has grown at such a rapid rate there have been added pressures to increase performance on everyone. People are not perfect, they make mistakes and there have been a few minor mistakes made by everyone. Everyone is trying to meet their own deadlines and one small mistake can cause a crisis in their area of responsibility, as well as aggravating other Executive Committee members trying to accomplish their own tasks. Lately, tempers have flared, and words have been said that are not meant as individual criticism. This is only human. We are trying to streamline everyones job to decrease the pressure that makes a difficult job even harder, and give the steady workers some time so they can enjoy themselves.

As a result of the added stress the group has been trying to deal with, the person that writes the column in our newsletter called Ram Bugs, under the pseudonym of Texincia Lubbock, has been having a grand old time. When this column first appeared in the newsletter, I figured that it was a way of poking gentle fun at people without causing anyone any pain. This is no longer the case. Texincia has become a wholesale distributor of harmful innuendo, and guilt by association. This person writes a column that can hurt someone's feelings without having the guts to put their name on it. The Texincia column tears apart someones reputation without giving that person the right to face their accuser. Quite often the person who writes this column is not fully informed. They take a few facts and twist them to suit their own purpose, while writing about someone who works all day, comes home and spends hours working for this group free of charge. Everyone on the Executive Committee works to the best of their ability, no one is perfect, because none of us claim to be an omnipotent god.

If Texincia doesn't like the way this group is being run, then it is time to stop hiding behind a pseudonym and have the guts to step out in the open and do some labor to bring about changes in the group that will eliminate the need for the seemingly never-ending fault finding that characterizes this column. There is constructive criticism and destructive criticism. The April issue of our newsletter contained referrences to a person, who in good conscience, made an error in judgement, and is now being held up for public ridicule by a faceless, nameless entity that may or may not be one of his peers. This Executive Committee member has worked long and hard hours, even days at a time for this group. Why then, should that person be the object of scorn in an international publication. Our editor Carole cannot delete these remarks by Texincia without creating the problem of censorship in our newletter, and I am sure that would be a precedent we would not care to establish.

If someone doesn't like what is going on in the group, Texincia has plenty of opportunity to voice her opinion in front of people who may agree with her. Texincia should at least have the intestinal fortitude to work for a better system, and not hide behind an insensitive diatribe that serves no purpose, other than to expose Texincia to the world as an author in search of a subject. If you don't like how this group is being run, then stop talking and get in there and work to change things.

I have always felt that if someone is doing a good job and happens to make a mistake, before you criticize them, find out why they made the mistake. Then see if you can give them the help they need so the mistake is not repeated. Every manager worth their salt knows that you praise in public, and criticize in private. Not so with Texincia!
This was written by Sandy Bartels, the current group president, and I am not hiding behind a pseudonym.

- - - - - - - - -

Dear Texincia:

.....I really enjoy your informative and entertaining column.

Sincerely,

Jack Raven #406

BASICALLY YOURS

Rich Klein

I can't believe it. It's been about a month since I ripped my console apart and redid all the I/O connections and since then, I haven't had a single problem with my system. I also installed a new power supply from Radio Shack. This is the switching supply made specifically for the 99/4A when they abandoned us. The manufacturers sold a large quantity to Tandy Corp. at extremely low prices which they passed on. Where else can you get a supply like this for 4 or 5 dollars? The advantage to the supplies from Radio Shack is that they run cooler. Lots cooler. They are of a newer design than the originals and are more efficient. 'Nuff said about that.

I noticed at the last meeting that some of you were confused about different aspects of the computer when loading and running programs was concerned. Maybe I can be of some help here. The TI is an extremely flexible machine and can load a broad variety of file types. I covered the different kinds of files in a previous issue of this newsletter. There are probably thousands of different kinds of file structures possible because of the way the file handling was set up by TI. Most of them are used for record keeping as opposed to application programs. There are three types of files used to store BASIC programs various ways. There are two basic file types for Assembly programs. Let's discuss the BASIC choices:

The primary choice for Basic programs to be stored in is PROGRAM image. This is merely a memory dump of your program or an exact copy of it as it resides in memory. Both Basic and Extended Basic use this type. If a program in saved this way, it will, in most cases load into Basic or Extended Basic without memory Expansion. If it won't, then it is possible that it is an Assembly language program.

If you get a memory full error either while loading a Basic program, or when trying to run it, then it may have been written on a system without a disk memory system. Or it may mean that you are attempting to load this program from a Cassette tape into Basic with a disk system attached. The reason your program won't load is because the disk system steals some memory away from the console. Since TI BASIC recognizes only the memory in the console, and not expansion memory, programs written without a disk system had the full console memory available at the time of writing,, and so won't load or run properly with a disk drive attached.

This situation can be remedied by the following procedure. Type in:

```
CALL FILES(1)
NEW
```

This shrinks the amount of memory the disk system uses. When you turn on your computer, the disk system automatically allocates enough memory to access three external files simultaneously. By doing a CALL FILES(1), you reduce this to one file, saving about 1024 bytes. This still means a reduction in available memory of about 1064 bytes compared to a non-disk system. It is possible that a file will still not load or run properly. If so, then try loading it into Extended Basic if you have memory Expansion. If it does not conflict with some of the quirks of XB, then you should have no problems.

INT/VAR 128

In Extended Basic, there are two other types of files that can be program files. The

first is INT/VAR 254. This is an Inter nal type Variable record length with a maximum length of 254 bytes. This type is used by Extended Basic if the program in memory is too long to fit into console memory. It can only be loaded if you have memory expansion and Extended Basic.

DIS/VAR 163

Another way of storing a program is in MERGE format. This format is DISPLAY VARIABLE 163. TI provided this as a means of creating program "modules" which can be stored as a sort of library of routines. These routines can be later MERGEd back in to a program already loaded into memory. By using this method, you can create custom programs by creating a main loop and merging the standardized modules into the program. This also promotes more structured programming.

Program modules may also be merged into the computer when no program exists. This is useful if you've done extensive editing on a program. When you edit a program line or add a line number out of sequence, it is stored at the end of the program regardless of where it belongs in the program. When the line is entered, the Line Number table is adjusted to point to the line's location in memory. If many lines are entered out of order, this can seriously affect the speed of program execution. In some extreme cases, it has been noted that some strange, meaningless errors occur.

By SAVEing the file in the MERGE format, all the program lines are sent to the disk in numeric order. If you MERGE this program back into memory with no program present, and then SAVE it out in the normal fashion, then your program will execute better when you use it. This is the command you would use to SAVE a program in MERGE format if the filename was TEST:

```
SAVE DSK1.TEST,MERGE
```

To retrieve a MERGE file called TEST, you would enter the following:

```
MERGE "DSK1.TEST"
```

Remember to use the quotes around the Device-Filename when merging a file back into memory. Also, this feature can be found only in Extended Basic.

DIS/FIX 80

If you see a file type that is Display Fixed 80, it is generally an Editor/Assembler object code file (program). These can be loaded with Editor Assembler module using Option #3, Load and Run; or Minimem using Option #1, Load and Run. These loaders will load any D/F 80 file, compressed or uncompressed. D/F 80 files have an Auto Run feature that can be incorporated into programs and will cause them to start as soon as they are loaded. If the file is not an auto run, then after the file(s) is (are) loaded and the filename prompt returns, you must press ENTER and type in a program name to start execution. A program name is simply an entry point into the program. By specifying an entry point, you tell the computer where to start executing the program. Entry points are names up to six characters long that the programmer sets up. There can be a number of possible entry points with a variety of names. Usually, any documentation the program comes with will tell you what the entry point is. If not, the most common ones are:

START, BEGIN, A, RUN, etc...

Some programmers use an entry point with the same name as the filename, or program title. If you have Funnelweb and use their loader, then if the file loaded is not Auto Run, it will display some of the possible entry points by copying the program's DEF table to the screen. This is a convenience not found in E/A or MM.

Extended Basic allows for loading this type of file as well, with one limitation. It cannot load a compressed object file. How can you tell if a file is compressed or not? You can't tell by looking at it. If you know it is an assembly language file and it loads with the E/A module but not with XB, then it is probably compressed. There are also some differences in the utility routines available for assembly files in E/A as opposed to XB. If an E/A program uses a routine available only with the E/A module or accesses a routine directly instead of by name, then it will probably crash in XB. Check your Docs to find out if it's compatible with both environments. Most programmers try to make them run in both, if possible.

To load a DF80 file from Extended Basic, you need to use these commands:

```
CALL INIT
CALL LOAD("DSKx.filename")
CALL LINK("program name")
```

CALL INIT loads the necessary support routines into memory expansion. CALL LOAD loads the desired file, and CALL LINK starts the program at the specified entry point. If the program Auto runs, the CALL LINK will not be required.

PROGRAM IMAGE

I know I discussed Program files earlier. While they are the choice for Basic and Extended Basic, you will also see Assembly programs in this format. One good way to tell if it is Assembly or Basic is to look at the file immediately following it. If it is the same, but with the last letter in the filename incremented, then it is almost surely an Assembly file. If it is not the same, then there is a 50/50 chance it is Basic or Ex-Basic. The reason for this is that when an an Assembly file is stored in Program image, it is stored in 8K blocks. If the file is more than 8K, then the last character of the filename is incremented and the next 8K is stored under this new name. This goes on until the file is stored in its entirety. It is not necessary to load each file individually, because they are each loaded in turn automatically. Just make sure you enter the first filename or you'll get an error.

A basic program file can be a little over 40 sectors long in its maximum length. This is because a Basic file over 12K long won't be stored in this format in Extended Basic. TI Basic can only utilize console memory and can't hold more than this with a disk drive attached. Assembly Program image files are 33 sectors long for each 8K block.

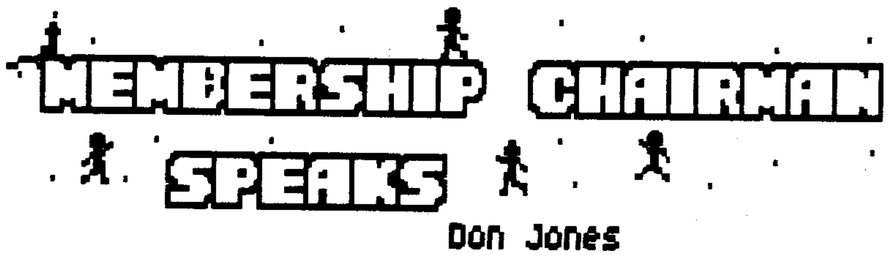
DIS/VAR 80 etc.

Display Variable 80 files of any type can be read by the Editor/Assembler or TI Writer editor. These are usually text files of some type. When you use TI Writer, you create and work with DV80 files. When you use Editor Assembler to create an assembly language program, you usually create a DV80 file which is then assembled into a DF80 (Display/Fixed 80) object file. The object file is the program you've created, while the DV80 file is the Source Code for that program.

Another type of file which you'll probably see, is a DISPLAY FIXED 128 file. This seems to be the standard for ARCHIVED files. These files are actually a group of related files stored or "packed" under one name. The purpose of this, is to make it easier to download or transfer a program or application which consists of more than one file. Instead of transferring a lot of little files, you transfer one BIG file and then unpack it later. Another purpose is to store or actually to "Archive" a group of files under one meaningful name. This is nice because so many programs consist of many little files which have names not directly related to the purpose of the program.

This covers the main types of files you'll find on your disks. Just remember, for every

rule there is at least one exception. CHARA1 files are PROGRAM image files, but you no how can uou load them. They are loaded by programs and occupy special areas of memory, such as the character table. They are loaded directly into the console and are data for the character sets. There are many other exceptions to the rules, and in time, you'll find them.



Don Jones

TO PARTY OR NOT TO PARTY?

Well, hi there again, Sports Fans! How's that for a title for my article? Well, that really is the question. All this work and preparation for the up-coming Faire is beginning to get exciting, and I'm starting to enjoy it. The "rush" is nice, but, I just have to make sure that I don't O.D. and "burn out" before the fact of the event!

The reason for this month's title is the fact that that was a question that came up in the last executive board meeting. Here, allow me to digress and say that I was truly appreciative of the constructive and legitimate criticisms which arose during the meeting. It was this kind of thoughtful feedback that gave me the kind of information which I so desperately need and crave as I was trained to be attracted to those individuals who tell me what I need to know rather than what I want to hear. I therefore found our last executive board meeting to be very important relative to my planning for this year's Faire. It gave me a lot of good ideas. Now, down to the big question of why it is important for us to put on a Friday night social mixer this year:

The first, and the most important, reason is the fact that we NEED it. Has it dawned on you sports fans that our government requires that all companies provide support for all discontinued products for a minimum of five years after the date of discontinuance? Are you aware that that mandatory five year period is fast approaching, relative to our beloved machine? Are you sports fans also aware that by calling the "TI-CARES" number that you can now order any hard/software manuals, which TI still has in stock, for only the cost of shipping? Now, Class, let's see a show of hands of how many of you believe that Texas Instruments, Inc. will continue to support the TI-99/4A computer any longer than is required by law? (If you raised your hand, please see me about a great opportunity to invest in a franchise for the selling of fried ice cream.) From my humble point of view, anything that you want from Texas Instruments, Inc., relative to the TI-99/4A, had better be acquired before the passage of the above mentioned five year period as I predict that all that you will then be able to get from Texas Instruments, Inc. will be that what is still left in stock, and once that that's gone, NOTHING! I also predict that after that time, nothing else, which exists solely for our machine, will be manufactured by Texas Instruments, Inc. Now how does this all justify a "Friday Night Social Mixer? The answer is this: I believe that the establishment of all possible lines of communications between all possible sources of information and product distribution is an urgent necessity and not a mere social frill. Yes, I feel very strongly that the establishment of all possible information networks is an important part of our responsibility to the TI community. Relative to this subject, I hereby encourage the bringing forth of any "responsible" opinions to the contrary.

The second major reason why I am pushing for the Friday night social gathering is that, according to Sandy Bartels, our president and former Faire chairman, many of our out-of-town visitors wanted one. I feel that we computer "freaks" often tend to neglect the human aspect of our lives. For this reason, it is sometimes very difficult for an outsider to get involved and to become a part of many computer communities. Do you remember the letter which I received from Kathy Belala, in Seattle, Washington and excerpted in our Super Winter Issue? In case you don't remember, look back to the great November 30-December 1 issue of last year; it is the one that came out just after our last Faire. There was a good example of some other users' group getting so immersed into the machine that they got to the point that they began to neglect the human factor. Listen up, Sports Fans: Our machine does not exist in a vacuum, rather it exist within a social milieu, and we can't afford to forget this most salient fact. Relative to this same problem, I have recently received a most ingratiating letter from a new member, Mr. Dirk A. Wood of North Las Vegas, Nevada. Just listen to what he had to say:

"Dear Don, As a new member, I can't begin to tell you how happy I am to belong to your group. I attended one meeting of our so called local users' group here in Las Vegas. What a joke! Everyone was huddled in several small groups, totally oblivious to my presence. After an hour and a half of trying to get someone's attention, I gave up and went home. One would think that someone would take notice of a stranger. Perhaps they didn't want any new members."

I have excerpted the above from Dirk's letter to again show how often, in our fervor of working with and on our beloved machine, we totally forget that the machine was designed by, built by, maintained by, purchased by, used by, programmed by, and loved by people. It's people who make up the TI environment and community, not other machines.

Enough of justifying the need for the "Friday Night Social Mixer." Instead, here are some of the details: The committee chairman for the social is our president, and former Faire chairman, Sandy Bartels. The "Friday Night Social Mixer" will be held at the O'Hare Holiday Inn on Friday, November 6, the day before our 1987 Faire (immediately after our initial set-up at Triton College). The cost for entry will be $3.00. All vendors, speakers, demonstrators, and volunteers to the Faire will be admitted free. This gathering will be open to the public. I am hoping that many people will come, especially our brothers and sisters from out of town as I would love to be able to meet many of our members who presently are mere names and numbers for me. I hope to have most, if not all, of the Faire speakers and demonstrators there, in addition to some of the heaviest programmers in the TI community. Snacks and hors d'oeuvres will be provided. There will also be an open "pay" bar. Please start ordering your tickets as soon as you can. In this way, I can better guage how large an area we will need for this mixer. Send your checks to our post office box, in care of Sandy Bartels. Please remember to make the checks out to the Chicago Area TI Users' Group.

As I look back upon the last meeting, I can clearly see that the very name, "Friday Night Social Mixer" is enough to produce an image of something that even I would be somewhat opposed to. Let me make one thing abundantly clear: When we TI people work, we work hard, and when we party, we party hard! And when we party, we party with our machines. That's right, Sports Fans. After seeing how few people are planning to bring their ladies, I came to the conclusion that a "dj" would be a waste of precious money. Instead, we will have a few machines set up. Knowing my TI brothers/sisters, I think that with a machine in the room, a pencil and paper in our hands, and a with few program disks in our pockets, we can very well entertain ourselves!

HI, HO! VOLUNTEER FOR THE FAIRE!

That doesn't sound like a very good line for a song, but it expresses a need that already exists. As you can see, I am already getting involved with my Faire responsibilities. Relative to my work as the Faire chairman, the following people have agreed to accept the

following responsibilities and burdens for the Faire: Buzzard Krantz, equipment chairman, Al Stump: hotel/motel reservations, Ken Czerwinski (assisted by Bob Knapik): liason with Triton College, Nancy Rauch: membership table chairman, Hank Ellermann: speaker reservations, Grant Schmalgemeier: out-of-town travelers' information general Faire information, Len Rovner: financial coordination and front door (entry/admissions) chairman, Ed Svizzero: audio/visual set-up chairman, Tony Zlotorzynski: Faire set-up chairman, Jan Joel Janowski: Faire break-down chairman, Sam Pincus: group sales chairman, Paul Farber: the "Saturday Night Dinner chairman, Butch Goldstein: the announcements table chairman, and Ken Knapp: transportation chairman. In addition to the above mentioned people, Sandy Bartels, our president and former Faire chairman, Sandy has graciously offered to take on the responsibility for the coordination of our Friday night "social mixer." Mike Chappell will take care of the Faire publicity before the Faire. During the Faire, he will be my right hand man-at-large. He will be a roving trouble shooter. If I can't be found, Mike, as he is the vice-chairman, will be the person to see.

I took the time to mention all of the above names so that everyone could see what the "working" hierarchy will be for this year's Faire. All of the above mentioned people are volunteers and they will need help. If there is anyway that you can help, please volunteer now to help any of the above mentioned people. (In order to do this, please contact them directly by seeing them before or after our meeting or by dropping them a line; send all letters to our post office box.) If you want to really get into the thick of things, I still need a chairman for the hospitality suite for our vendors.

WE WILL NEED SYSTEMS AGAIN!

As last year, we will be needing systems for use by our of town demonstrators. Anyone who volunteers the use of his/her system will receive a year's membership in the group and his/her choice of a library disk. The group also promises to indemnify all persons, who loan us their equipment, against any loss or damages to any equipment loaded to us for the Faire. If you wish to loan us your system, please contact the Mighty Buzzard (Buzz Krantz).

THIS YEAR, WE WILL BE BIGGER!

At our last executive board meeting, we had present Don Walden, the president of the Milwaukee TI Users' Group and the Wisconsin TI Council. Last year, the Milwaukee Users' group approached us about the possibility of having a joint Faire. Unfortunately they approached us after we had already done our mailings to our vendors and made all of our plans. This year, we were approached early with a proposal that we do a joint Faire. As a result of our negotiations, this year, we will be having a "TI Weekend." The first day of this weekend will be our yearly Chicago Faire. The second day will be the Milwaukee/Wisconsin Council Faire. I'll have more details on the Wisconsin event later.

In addition to our "Friday Night Social Mixer, we will be having our second annual "Saturday Night Dinner." This event will not be open to all persons. Only those persons who have functioned on a Faire committee, or who have volunteered to work during the Faire will be allowed to purchase tickets. There will be a $3.00 charge for ALL attendees of this event, vendors, executive board members, volunteers, and group officers included. (Only children under 12, who come as part of a family, where one member has volunteered, will be allowed to come without charge.) As the price is small, and we are having this dinner catered by a quality organization, I feel that there should be no legitimate cause for complaint. The charge is a small one, but it will help to significantly defray the cost of the event. I will require that a list of all volunteers be submitted to our "Saturday Night Dinner" chairman, Paul Farber. Paul will be selling tickets only to those members who have volunteered. Vendors and speakers will purchase their tickets through Al Stump, our reservations chairman. All tickets must be purchased by October 1.

Well, Sports Fans, it's just about time for ol' Chrome Dome Jones to wander off into the sunset. I just wanted to wet your appetites for some of the things that will be occurring at the 1987 Faire. Though I don't have all the details, there is one thing that I can guarantee you: To use the words of the immortal Ed "I had the Beatles first" Sullivan, "We're going to have a really big shew, Folks!"

PROCESSED DATA: Sandy Bartels

This month I have to inform you that Nancy Rauch, our group secretary, has resigned due to an increase in her workload at her job. Consequently we have instituted a search for a replacement on the Executive Committee. If you feel you would qualify and could donate some time to the group, I would like to hear from you. I would like to thank Vice President Butch for standing in for me at the last membership meeting. I had to catch a flight that afternoon. I also understand we were not prepared to have Jack Topham's software demonstration due to the unfortunate illness of Bob Demeter who was bringing the hardware. A question and answer session was staged, and it is my understanding it was well received. Ed Svizerro told the Executive Committee that he was going to obtain a longer greeting tape for the answering machine, so more information could be stored and relayed to our members.

Don Jones outlined his plans for the upcoming TI Faire this year. Don is looking into having a social event the night before the Faire that would welcome all the vendors and visiting users groups by getting better acquainted before the big event the next day. Don also has an idea for a souvenir booklet that would be jammed with useful information about the TI world and would be available at the Faire. Don Walden from the Milwaukee Council was present at the last Executive Committee meeting to propose a joint venture on advertising both the Milwaukee and Chicago events. The Executive Committee passed a proposal to limit the use of the Public Address system to ten minutes after the membership meeting so as not to disturb the various special interest groups that form after the meeting. The meeting time for the Executive Committee board meetings has been changed due to the amount of business that has to be handled every month. The new starting time is 10:45. The club is purchasing another system for general use at the meetings. Chuck Hoff is looking at a system this week.

This year I am helping Don Jones with the social event the night before the Faire. Last year I had so many people say that they wanted a get together so they could meet other members and friends they had only known from BBS contact etc., so this year we will have a small social for everyone. What I would like is some ideas of what people would like at this social. If you could take a few minutes and drop me a line and let me know what you would like to see at this social I will try to please everyone. (Impossible as that usually is to do.)

I want to remind all attending members that we are responsible for returning the general membership room to the same state we found it in before our meeting. Please pick up your papers and if you are using a folding chair please return it to its original location. We want to keep Triton College happy, they have treated us well, and we should want to return the favor. There is one more thing, about the meeting room. There have been some complaints about children running in the hallways during our meetings. We want our meetings to include the whole famly, but we cannot allow children to disturb other meetings that may be going on at the same time as ours. In the future, if you bring your children to our meeting, please restrict their activities to our meeting room. We do not want to lose our meeting room.

The new library catalogue is now on sale. Because of it's size our printing costs have increased and the charge for a new library catalogue will cost $1.50. Anyone wishing to buy a new library catalog please send $1.50 with their name and address to our club PO box. And as soon as Grant can, he will mail your catalogue. The club has been looking

at ways to cut down on some of our operating expenses, and one way we found of cutting costs is by mailing things bulk mail. In some cases it will take longer for things to reach you, but we did not want to have to cut our services to our members. So if you will bare with us, you will recieve all the items you have ordered.

Now, using the TI Artist drawing package by Chris Faherty and the conversion program listed here, you can easily add your own graphics to any TI Writer file.

TI WRITER GRAPHICS

PRODUCING ART
WITH THE WORD PROCESSOR
PART TWO

BY ANNE DHEIN

Part One of this article showed you how to use transliterates to produce graphics with the TI Writer. Theoretically the idea works fine, but when you actually start designing a picture on graph paper you quickly find yourself bogged down by tremendous amounts of graphic data - the transliterates themselves and then a number for each and every dot you wish to have printed on the paper. And to top it off, the numbers have to be in an exact order. At best, if you make a mistake your picture will look funny; at worst you can crash the system by having innocent-looking numbers in wrong places.

So, the idea of TI Writer graphics, while technically feasible becomes impossibly hard as you get into larger areas of graphics. Do you recall the True Value Logo in Part One? It took 146 lines of transliterates, each with about a dozen numbers, to make a graphic reproduction on the page that was 1/2 inch high by 5 1/2 inches long (actually only 2 3/4 inches long if you don't count the phone number which is done with enlarged print, not graphics).

The True Value Logo was easier to produce than you might think, though. Instead of drawing it on graph paper and laborously figuring out the many data values as I could have done, I used TI Artist to design the picture and an Extended Basic program to convert the picture to a transliterate file that can be used to dump the graphics to a printer from the TI Writer formatter.

TI Artist is a generalized drawing program using bit map graphics to produce a high quality picture with very little training. For its small price ($19.95 at Dhein's), it has many excellent features, but the one that is of interest here is the program's ability to save a picture on disk as a DIS/VAR 80 file. The graphic data for this picture, which is called an INSTANCE, can be looked at with the TI Writer. The Instance files were designed in such a way that they would be easy for someone to use in his own Extended Basic programs. Instead of using them in programs, we want to use them as the basis of a TI Writer transliteration file that will reproduce the same picture from the TI Writer formatter.

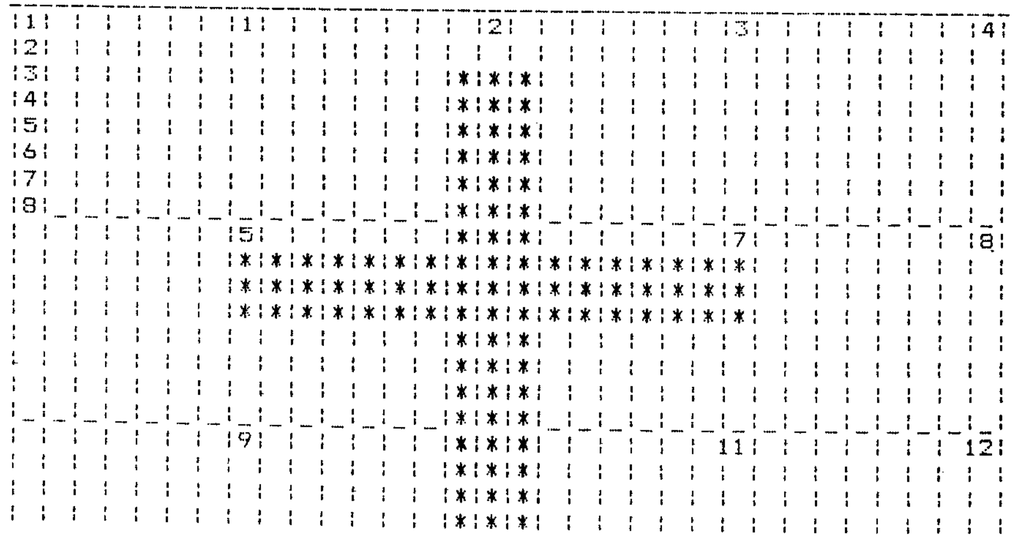
When you draw a picture using TI Artist, imagine that the screen is composed of a grid of blocks - 32 blocks wide and 24 blocks high; 768 blocks in all. Each block is composed of 64 dots, each of which is capable of being turned on or off independently. (768 X 64 is 49,152 dots over which you have control. That's a lot of dots!) When the dots are on, you can see them on the screen. When the screen is dumped to a printer, each dot that is "on" on the screen is reproduced by the printer.

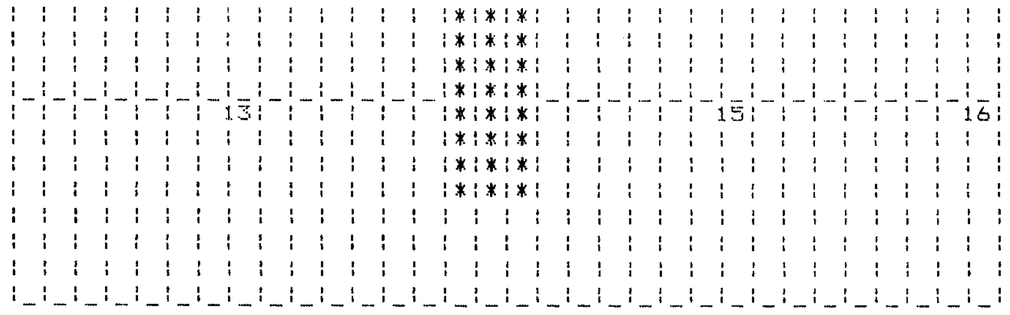
For now we want to save all or part of the picture onto a disk using the Instance option. The area of the picture you designate for saving is saved on character boundaries - that is, along the lines of some of those 768 blocks mentioned earlier. Each dot in each block that has been selected to be saved is assigned a number. The test drawing I made consisted of two lines - one horizontal, one vertical - which formed a cross. Here is the DIS/VAR 80 file I got when I saved the drawing as an Instance:

```
4,4
0,0,0,0,0,0,0,0
0,0,3,3,3,3,3,3
0,0,128,128,128,128,128,128
0,0,0,0,0,0,0,0
0,1,1,1,0,0,0,0
3,255,255,255,3,3,3,3
128,255,255,255,128,128,128,128
0,0,0,0,0,0,0,0
0,0,0,0,0,0,0,0
3,3,3,3,3,3,3,3
128,128,128,128,128,128,128,128
0,0,0,0,0,0,0,0
0,0,0,0,0,0,0,0
3,3,3,3,0,0,0,0
128,128,128,128,0,0,0,0
0,0,0,0,0,0,0,0
```

The Instance files are set up so that the top line (record 0) consists of two numbers - The number of blocks (or character positions) that the picture takes up across the screen, and the number of blocks high it is. The remaining 16 lines in this file consist of one record for each block, with the record containing the information as to which dots are turned on in that particular block. Here is a graphic illustration of the blocks with the appropriate dots "on":

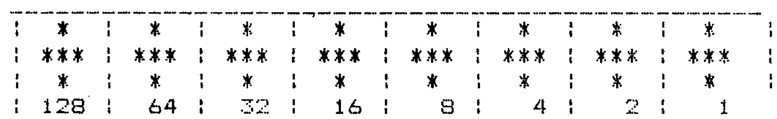
```
 1
 2 6 3 1
 8 4 2 6 8 4 2 1
```





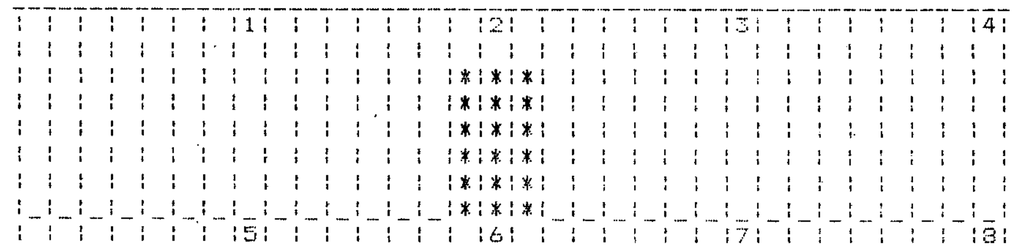
The test drawing takes up four blocks across the screen and is also 4 blocks high. Notice that each block has been divided into 64 parts to represent the 64 dots that can be turned on or off individually on the screen. The blocks have been numbered in the upper right corner so that you can see them easier. In the file, block width comes first so the first four lines correspond to blocks 1-4; the next four lines are for blocks 5-8; and so on, down to the last line of the file which is block 16.

Now think of a block as eight rows of eight dots each. Each dot in the row has been assigned a number as shown:



If the values of each position in the column were added together you would come up with the sum of 255. This is the highest number you will see in an Instance file. It means that every single dot in that particular block has been turned on. Suppose dots 128, 16 and 2 were on. THe sum would be 146. Any combination of dots you can think of will add up to a unique number between 1 and 255. If no dots are turned on you would have a zero value for that row.

Now match the first record of your file to block number one. There are eight zeros - one zero for each row. Since they are all zeros, no dots have been turned on in this block. Going on to the next record, we see that the first two numbers here are zero, and the remainder are threes. Rows one and two in block two have no dots. The third number, three, has been obtained by adding dots one and two together. Dots one and two are on in the remaining rows of block two. Block three has zeros for the first two rows again, and the remaining numbers are all 128. 128 is the exact number of the left-most dot; this dot is turned on. Block four is again all zeros, so our first four blocks look like this:



As you continue to fill in the pattern, record by record, you will see the completed cross emerge, just as it is shown above.

If you wanted to display the picture on the screen, an Extended Basic subroutine could be written that would take each record, convert the numbers to CALL CHAR statements and display them on the screen. However, getting the picture to print on paper through the TI Writer is a little more complicated. Printer layout is different from screen layout in that instead of each block consisting of 8 ROWS of 8 dots each, a block consists of 8 COLUMNS of 8 dots each. Exactly how this is done varies from printer to printer. The Epson format is described in part one of this article. The information can be found for any printer capable of dot graphics in the manual that comes with it. Here, the Instance file for the cross, shown above, has been run through a conversion program which converts existing rows into a column format which can be used by the Epson printer. In the program below the lines that accomplish this conversion for both the Epson and the Prowriter are contained in the section between 290 and 510. Here is the file after the conversion:

```
4,4
0,0,0,0,0,0,0,0
0,0,0,0,0,0,63,63
63,0,0,0,0,0,0,0
0,0,0,0,0,0,0,0
0,0,0,0,0,0,0,112
112,112,112,112,112,112,255,255
255,112,112,112,112,112,112,112
0,0,0,0,0,0,0,0
0,0,0,0,0,0,0,0
0,0,0,0,0,0,255,255
255,0,0,0,0,0,0,0
0,0,0,0,0,0,0,0
0,0,0,0,0,0,0,0
0,0,0,0,0,0,240,240
240,0,0,0,0,0,0,0
0,0,0,0,0,0,0,0
```

These are the numbers that make up the graphics data for your transliterate codes. As explained in part one the particular transliterate code we want is the one that switches the printer from the text mode to graphics mode. The normal density graphics mode is entered with the ASCII codes 27 and 75. The 75 must be followed by two numbers which tell the printer how many columns of graphics to print on a line. Unless you are going to send more than 255 columns of data values (and we haven't figured out a way to do that yet), the first number must be the exact number of columns you want to print and the second number must be zero. The graphics data which we have from above immediately follows the second number. The top record of this file tells us that our graphic design is 4 characters wide by 4 characters high. Therefore the next 4 records will be the top line of the graphics design, followed by the next 4, which are the second line, on down to the last 4, which are the bottom line of our graphics design.

Since computers are so good at doing all the nitty-gritty repetitive work, we are going to let it add all the transliterate codes on for us too - not only the ones in front of our graphic data but also ones needed to change line spacing and add the line feeds.

Transliterate codes are limited to one 80 column line but you may use as many transliterates as you like for one line of graphics; you can cram as many data units as will fit onto the line, or as few as you please. Since we are using a file as our base that has eight graphics units per record (one character), we will use this same number for each transliterate code.

The program listing following this article was written by David Dhein. It was enhanced by Paul Berg of Trio+ Software so that graphics could be centered, and so it could be used with a ProWriter as well as the Epson printer. Type it into Extended Basic and save the file on disk with the name CONVERT. Or, if you'd rather not type in the program, it is available through the club library.

To use, you must first prepare your picture with the TI Artist Program, and save it as an Instance. Load CONVERT into Extended Basic and RUN. When asked for the Instance file name, type in the name of the Instance, but omit the "_I" from the end of it. This is the name that the transliterate file will be called. You will next be asked for the type of printer you have. The program will work with Epson and Gemini 10X and compatible printers, and with the ProWriter and compatibles. If you wish, the program can center your graphics on the page; otherwise, the design will start at the left margin.

Your transliterate file is now ready to be prepared. Depending on how large it is, you may have to wait quite awhile for it to be converted. When it is complete, you will have a file that you can run through the Formatter of the TI Writer. It will produce the same graphics that you prepared in TI Artist, although perhaps smaller than you had expected - one screen-width will cover about one half of a page width. When you use the formatter, use the same file name that you typed into the conversion program. When asked for the printer device name, use .CR on the end instead of .LF which is the normal default. This works on our TI Impact printer, on the Gemini 10 and 15X's and on ProWriters run on a serial interface, but if you are using a parallel interface (PIO) you may have to experiment some.

If you are a long-time user of the TI Writer, you may have already realized that when .CR is used as part of the formatter's printer parameters, a text file prepared in the editor would no longer print properly. With the carriage return suppressed, each suceeding line is typed right over the top of the first. Since one of the beauties of CONVERT was to be the fact that graphics could be printed right along with text without having to run a page through the printer twice, we had to think of a way around this problem. The solution was to add a line feed character to each text line. This does have limitations; graphics line spacing and normal line spacing do not easily mix in long files, and no good way has yet been found to use a line space of 8 lines per inch in a longer file.

If your text is not too long you can add line feed characters right from the editor. Press control U which will give you a flashing underline for the cursor. Now type a J after each line of text (make sure the J is upper case). Press control U again to get the regular cursor back. Don't add line feed characters to the transliterate file - it is complete as it is.

If you have a long file which is to be printed 6 lines to the inch, prepare you text file on the editor as usual. You can experiment with format commands - some work perfectly with the .CR parameter, others are tricky. When the document is ready (minus the drawing), run it through the formatter, only instead of printing it on paper, print it on a disk. Use, for example, DSK1.MYFILE as the device name. Be sure to use a different file name from the one you already have if don't want to lose the original file. The new file will print fine through the formatter when .CR is used as part of the printer device name.

Now you can insert your drawing into your text document at any point, using the merge technique described on page 73 of the TI Writer manual. If your files are too long to be merged into one file, you can break the text file into two or more parts (be sure to a different file name for each section). Use the Include File command (page 109 in the TI Writer manual) to print all the parts, one after the other.

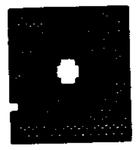
The work that members of our group have done with graphics through the TI Writer has just scratched the surface of what could be done. We worked with Epson and ProWriter but there are other printers out there too. Using the Special Character mode you could undoubtedly produce graphics from the editor as well...it has been done on a limited basis. Since so little is written about the transliterate command or the Special Character mode in the TI Writer manual, one can only wonder what TI would have done with them had they stayed in the 99/4A computer business. If anyone out there can add to the program - for instance, making it work with a different type of printer - or can shed more light on the mysteries of TI Writer graphics, our club would like to hear from you. If you're interested in TI Writer graphics too, let us know and we'll share new discoveries.

Trio+ Software will be coming out with a vastly expanded version of this program which will allow you to place graphics anywhere on the paper you wish, and possibly even to merge files. It will also contain a disk cataloging feature that will help you keep track of your transliterate files. This new program will let you design single character fonts (or use exixting ones) which can then be converted to transliterate files. This means that you can take any text file and have it print out in a different font style. I saw results using a script font from Trio+ and it was beautiful! It looked like someone's small handwriting.

Thanks go to Barb Berg of Trio+ Software for the use of the Flower character font used at the beginning of the article. It comes from the TI Artist Companion package put out by Trio+. They also have a second companion package which contains the Script font mentioned above. Both sets are excellent, and you should have them if you use TI Artist very often. For more information contact Trio+ Software at P.O.Box 115, Liscomb, IA 50148; or talk to Paul Berg at any meeting.

```
100 DISPLAY ERASE ALL AT(1,4):"TI-ARTIST TO TI-WRITER": :"     CONVERSION PROGRA
M"
110 DISPLAY AT(5,1):"INSTANCE file name:"
120 ACCEPT AT(5,21)SIZE(8):NAME$
130 DISPLAY AT(7,3):"The file is on drive 1"
140 ACCEPT AT(7,24)SIZE(-1)VALIDATE(DIGIT):FD
150 DISPLAY AT(8,1):"Which drive for new file? 1"
160 ACCEPT AT(8,27)SIZE(-1)VALIDATE(DIGIT):SD
170 DISPLAY AT(10,1):"Select printer: 1": :"  1 Epson": :"  2 Prowriter"
180 ACCEPT AT(10,17)SIZE(-1)VALIDATE(DIGIT):P
190 A$="DSK"&STR$(SD)&"."&NAME$
200 NAME$="DSK"&STR$(FD)&"."&NAME$&"_I"
210 DISPLAY AT(18,8):"...Working."
220 OPEN #1:NAME$,INPUT
230 OPEN #2:A$,OUTPUT
240 INPUT #1:X,Y
241 DISPLAY ERASE ALL AT(1,1):"OUTPUT CENTERED ? Y" ::ACCEPT VALIDATE("YN")SIZE
(-1)AT(1,19):C$
250 IF X*Y>25 THEN DISPLAY AT(20,4):"This may take awhile.":::DISPLAY AT(21,4):
"Please be patient..."
260 PRINT #2:".TL 92:10" ! \=CHR$(10)=LINE FEED
270 IF P=1 THEN PRINT #2:".TL 61:27,65,8" :: PRINT #2:".TL 62:27,65,12" ::PRINT
 #2:"=" :: GOTO 290 ! EPSON COMMANDS
275 ! = IS 8/72  LINE SPACE        > IS 12/72 LINE SPACE
280 PRINT #2:".TL 62:27,65" :: PRINT #2:CHR$(27)&"T16":: PRINT #2:"\" ! PROWRI
TER COMMANDS
285 ! > IS 6 LINES TO INCH         2nd LINE IS CUSTOM LINE SPACE AT 16/144
290 FOR K=1 TO Y
300 FOR L=1 TO X
310 IF P=1 THEN INPUT #1:C(7),C(6),C(5),C(4),C(3),C(2),C(1),C(0):: GOTO 330
320 INPUT #1:C(0),C(1),C(2),C(3),C(4),C(5),C(6),C(7)
330 FOR I=7 TO 0 STEP -1
340 A=C(I)
350 FOR J=7 TO 0 STEP -1
360 IF 2^J>A THEN 390
370 A=A-2^J
380 B(J)=B(J)+2^I
390 NEXT J
400 NEXT I
410 A$=STR$(B(0))
420 B(0)=0
430 FOR I=1 TO 7
440 A$=STR$(B(I))&","&A$
450 B(I)=0
460 NEXT I
470 IF P=1 THEN PRINT #2:".TL "&SEG$(STR$(127-L),1,3)&":27,75,8,0,"&A$ ::GOTO
490
480 PRINT #2:".TL "&SEG$(STR$(127-L),1,3)&":27,83,48,48,48,56,"&A$
490 NEXT L
491 IF C$="Y" THEN PRINT #2:".CE"
500 N$="" :: FOR N=1 TO X :: N$=N$&CHR$(127-N):: NEXT N :: PRINT #2:N$&"\"
510 NEXT K
520 FOR N=1 TO X ::N$=".TL ":: N1$=SEG$(STR$(127-N),1,3):: N$=N$&N1$&":"&SN1
 : PRINT #2:N$ :: NEXT N
```

```
530 PRINT #2:".TL 92,92"
540 IF P=1 THEN PRINT #2:".TL 61,61"
550 PRINT #2:">"
560 PRINT #2:".TL 62,62"
570 CLOSE #1
580 CLOSE #2
590 END
```

SOFTWARE REVIEW

Jack Topham

One of the best MAIL LIST programs todate has come from P&A Software as Fairware. Vs 1.2 runs in XBASIC and requires Expanded memory and at least one disk drive. Features abound including choice of 10 borders as well as screen colors. You can Add, Scan, Delete, Search, Change Records. Other modes are Print, Load, Save, Sort, Purge, and Read Directory. Fields are Last and First Names, Year, Street Addrs, City & State, Zip, and Tele No. You can also Split or Merge data files. The program files use about 200 sectors so if you use a SSSD disk that leaves 160 sectors for Records at 3 REC per sector, for 500 Records.

Paul Scheidemantile included a great Super Loader, a Disk Labeler on my disk titled INOVATIVE UTILITIES, all Fairware. I'll put the Disk in the Fairware library, but send him $5 if you use any of the programs!.

Not POLYOPTICS sent the UG a DEMO screen from their new Flight Simulator, SPAD XIII. The program uses an EXPANDED system fully, and provides 3D perspective. Full acrobatic control and continuous cockpit instrument readouts. Scenery includes the Eiffle Tower, Seine River, etc. You can dogfight enemy aircraft and drop bombs as long as you avoid the flak. XBASIC load. $30 Retail. The DEMO screen is good. Maybe someone will buy the program and share at a meeting.

INVOICE is FAIRWARE from David Belanger and written in XBASIC and requires an expanded system. The program is user friendly and allows you to prepare and print an invoice. Use of different printer fonts make the product quite attractive. Fields include Date, Description, Charges, Credits, and a calculated Balance. Tax and Ship/Handling can be added. Nice job, good DOCS, and easy to use. It's in the library but send $5 to David if you use it.

INSCEBOT generously provided the UG with copies of TI-ARTIST, DISPLAY MASTER, and ARTIST EXTRAS. Since I had already purchased the first two and reviewed them as well as Demonstrated them in the past, I'll only cover ARTIST EXTRAS here. ArtExtras includes 14 new and unique Fonts, Input DSR's for a JOYSTICK, a MOUSE, and the SUPER SKETCH device.

Also included are conversion programs to convert CSGD Fonts, Graphics, and Pics to TI-ARTIST Fonts, Instances, and Pics. Side two includes 7 Pictures and 5 Instances. Most of the character Fonts in the package come from Dave Rose, Mr CSGD. Another good deal.

Mark Beck has released Vs.6.0 of Creative Filing System (CFS). $5 got me the updates in one week. That's service. Both CFS and PRBase are scheduled for demonstration at the April meeting. Sure hard to pick one over the other. See Nov 30, 1986 Newsleter for full reviews.

T H E B A S I C A S S E M B L E R #6 By Steve Peacock

CHECK COINCIDENCE OF SPRITES

This month we will learn how to check for sprite coincidence. This program is perhaps the longest yet. If you look at it carefully, you will see that the first part is very much like the program you had last month. From the start of the assembly program to the main loop, LO, it puts two sprites on the screen and sets them in motion. The second half of the assembly program is the part that checks for coincidence. To check for coincidence the row value of sprite number zero is read then the row value of sprite number one is read. These values are subtracted and then the absolute value is found. This value is then compared to a fixed value. I have used eight but any value can be used. This fixed value is the number of pixels that determine if there has been a coincidence. If the value is greater than eight then the program jumps back to the main loop. If the value is less than eight then the column value of sprite number zero and sprite number one is checked in the same way. Greater than eight means no coincidence, less than eight then there has been a coincidence. If this is the case then the program prints the message stating that a 'Coincidence Has Occured'. It then waits about one second to run through a loop of >FFFF (65535 d), then erases the message by printing 23 blanks.

When using sprites you MUST use the commands LIMI 2 and LIMI 0 to enable and disable the VDP interrupt. Failure to do this may result in some strange things on your screen. They MUST also be used INSIDE a delay loop.

```
100 REM PROGRAM BA6B-->Basic Assembler #6 Basic Version
110 REM CHECK COINCIDENCE OF SPRITES
120 REM (C)1985 S. PEACOCK
130 REM YOU MAY WANT A 'CALL CLEAR' HERE
140 CALL MAGNIFY(2)
150 READ DEF1$
160 CALL CHAR(128,DEF1$)
170 CALL SPRITE(#1,128,7,32,32,50,50)
180 READ DEF2$
190 CALL CHAR(129,DEF2$)
200 CALL SPRITE(#2,129,16,95,127,0,0)
210 CALL COINC(#1,#2,8,A)
220 IF A=0 THEN 210
230 RESTORE 330
240 READ MES1$
250 READ MES2$
260 DISPLAY AT(22,3):MES1$
270 FOR DELAY=1 TO 350
280 NEXT DELAY
290 DISPLAY AT(22,2):MES2$
300 GOTO 210
310 DATA FF8181818181FF
320 DATA AA55AA55AA55AA55
330 DATA COINCIDENCE HAS OCCURED
340 DATA "                          "
350 END
```



```
*
*PROGRAM BA6A-->Basic Assembler #6 Assembly Version
*CHECK COINCIDENCE OF SPRITES
*(C)1985 S. PEACOCK
*
*****************************************************************************
       REF  VMBW,VWTR,VSBR
       DEF  START
START  LI   R0,>01E1      *WRITE >E1 TO WRITE ONLY REGISTER #1. SET SPRITE
       BLWP @VWTR         *MAGNIFICATION TO 2
       LI   R5,>0200      *WRITING >0200 TO ADDRESS >837A, LETS SPRITE #0
       MOVB R5,@>837A     *AND #1 MOVE.
       LI   R0,>0400      *WRITE THE DEFINITION OF THE FIRST SPRITE TO
       LI   R1,DEFIN1     *ADDRESS >0400 (THIS IS SPRITE #0)
       LI   R2,8
       BLWP @VMBW
       LI   R0,>0300      *WRITE THE ATTRIBUTES OF THE FIRST SPRITE TO
       LI   R1,ATRB1      *ADDRESS >0300 (ROW,COLUMN,CHAR NUM,COLOR)
       LI   R2,4
       BLWP @VMBW
       LI   R0,>0780      *WRITE THE MOTION OF THE FIRST SPRITE TO
       LI   R1,MOT1       *ADDRESS >0780
       LI   R2,4
       BLWP @VMBW
       LI   R0,>0408      *WRITE THE DEFINITION OF THE SECOND SPRITE TO
       LI   R1,DEFIN2     *ADDRESS >0408 (THIS IS SPRITE #1)
       LI   R2,8
       BLWP @VMBW
       LI   R0,>0304      *WRITE THE ATTRIBUTES OF THE SECOND SPRITE TO
       LI   R1,ATRB2      *ADDRESS >0304 (ROW,COLUMN,CHAR NUM,COLOR)
       LI   R2,4
       BLWP @VMBW
       LI   R0,>0784      *WRITE THE MOTION OF THE SECOND SPRITE TO
       LI   R1,MOT2       *ADDRESS >0784
       LI   R2,4
LO     LIMI 2             *INABLE THE VDP INTERUPTS  !FCTN/QUIT WILL RETURN
       LIMI 0             *DISABLE THE VDP INTERUPTS !TO MAIN TITLE SCREEN
************************WHEN USING SPRITE THIS MUST BE PUT IN A
************************FREQUENTLY USED LOOP
*********************************
************************START OF LOOP TO CHECK OF COINCIDENCE
       LI   R0,>0300      *SPRITE #0's ROW IS AT THIS ADDRESS
       CLR  R1            *SET REG. #1 TO ZERO
       CLR  R2            *SET REG. #2 TO ZERO
       BLWP @VSBR         *READ ROW VALUE OF SPRITE #0. IT IS PUT IN LEFT
************************BYTE OF REG. 1
       MOVB R1,R2         *MOVE ROW VALUE INTO LEFT BYTE OF REG. 2
       SWPB R2            *PUT ROW VALUE INTO RIGHT BYTE OF REG. 2
       LI   R0,>0304      *READ ROW VALUE OF SPRITE #1 AND PUT IT IN LEFT
       BLWP @VSBR         *BYTE OF REG. 1
       SWPB R1            *MOVE ROW VALUE INTO RIGHT BYTE OF REG. 1
       S    R1,R2         *SUBTRACT THE ROW VALUES. ANSWER PUT IN REG. 2
       ABS  R2            *FIND ABSOLUTE VALUE
       CI   R2,>0008      *COMPARE TO EIGHT
       JGT  LO            *IF RESULT IS GREATER THAN EIGHT THEN NO
************************COINCIDENCE HAS OCCURED. JUMP BACK TO MAIN LOOP
       LI   R0,>0301      *SPRITE #0's COLUMN IS AT THIS ADDRESS
       CLR  R1            *SET REG. #1 TO ZERO
```

```
       CLR  R2            *SET REG. #2 TO ZERO
       BLWP @VSBR         *READ COLUMN VALUE OF SPRITE #0. IT IS PUT IN
************************LEFT BYTE OF REG. 1
       MOVB R1,R2         *MOVE COLUMN VALUE INTO LEFT BYTE OF REG. 2
       SWPB R2            *PUT COLUMN VALUE INTO RIGHT BYTE OF REG. 2
       LI   R0,>0305      *READ COLUMN VALUE OF SPRITE #1 AND PUT IT IN
       BLWP @VSBR         *LEFT BYTE OF REG. 1
       SWPB R1            *MOVE COLUMN VALUE INTO RIGHT BYTE OF REG. 1
       S    R1,R2         *SUBTRACT THE COLUMN VALUES. ANSWER PUT IN REG. 2
       ABS  R2            *FIND ABSOLUTE VALUE
       CI   R2,>0008      *COMPARE TO EIGHT
       JGT  L0            *IF RESULT IS GREATER THAN EIGHT THEN NO
************************COINCIDENCE HAS OCCURED. JUMP BACK TO MAIN LOOP
************************PRINT MESSAGE AND ERASE IT
       LI   R0,676        *SCREEN ADDRESS TO PRINT MESSAGE
       LI   R1,MES1       *LOAD MES1
       LI   R2,23         *MESSAGE IS 23 LETTERS LONG
       BLWP @VMBW         *PRINT IT
       LI   R5,>FFFF      *LOAD REG. 5 WITH >FFFF (65535 DEC)
LP     DEC  R5            *DECREASE REG. 5 BY ONE
       LIMI 2             *INABLE INTERUPTS  !THIS IS NEEDED INSIDE THE
       LIMI 0             *DISABLE INTERUPTS !DELAY LOOP!!!!!!!!
       JNE  LP            *IF REG. 5 DOES NOT EQUAL ZERO THEN JUMP BACK
************************TO LP
************************THE ABOVE LOOP CAUSE ABOUT A ONE SECOND DELAY!
       LI   R0,676        *PRINT MESSAGE #2. (23 BLANKS)
       LI   R1,MES2       *TO ERASE MESSAGE #1
       LI   R2,23         *
       BLWP @VMBW         *
       JMP  L0            *UNCONDITIONAL JUMP BACK TO THE MAIN LOOP
DEFIN1 DATA >FF81,>8181,>8181,>81FF   *SPRITE #0 DEFINITION
ATRB1  DATA >2020,>8006               *SPRITE #0 ATTRIBUTES
MOT1   DATA >3232,>0000               *SPRITE #0 MOTION
DEFIN2 DATA >AA55,>AA55,>AA55,>AA55   *SPRITE #1 DEFINITION
ATRB2  DATA >5F7F,>810F               *SPRITE #1 ATTRIBUTES
MOT2   DATA >0000,>0000               *SPRITE #1 MOTION
MES1   TEXT 'COINCIDENCE HAS OCCURED' *MESSAGE #1
MES2   TEXT '                       ' *MESSAGE #2
       END
```

WANTED: EE type Hacker/programer. Need assistance in hardware design projects. Projects involve integration and interface or reasonably simple electronic gadgets involving photocells, switches, pulse formers, A- D convertors, etc. Knowledge of RS232 and joystick ports on the 99/4A necessary.

The problems will be to integrate and troubleshoot the ideas, which are generally of an "electronics magazine level" of sophistication. Fees will be paid by contract on a per project basis, i.e. I say what I want and you say how much.

ALSO WANTED: TI-Artist Artist and/or Programer. Need an individual skilled at the usage of the TI Artist or similar graphics program to produce imagines and the appropriate extended basic codings for inclusion in extended basic programs. Some subprogram writing needed. If interested in either of the above, please drop a one page resume to Morris K. Morgret, Ph.D., 676 Shoup Avenue West, Suite 11, Twin Falls, ID 83301. No calls please.

FROM OTHER ORPHANAGES

Jack Topham

The quote of the month comes from the UG of ORANGE COUNTY, CALIF: "If debugging is the process of removing bugs, then programming must be the process of putting them in.....".

The LOS ANGELES UG in their monthly TopIcs offered a couple of tips they picked up from the PITTSBURG UG.
Instead of just using CALL CLEAR try these variations:

1. 10 CALL HCHAR(1,1,32,768)
2. 10 CALL VCHAR(1,1,32,768)

This will clear your screen by sweeping top to bottom, or left to right.
For bottom to top....

```
10 FOR I=24 TO 1 STEP -1
20 DISPLAY AT(I,1):"" :: NEXT I
```

From the MID-HUDSON UG a TI WRITER Tip. To keep from losing your file name dont type over the old file name. Just press FCTN 2 and type in the new file name and one blank space. This will shove the old file name out of the way to the right. When you go back with SaveF, etc., simply delete the new name and use the old file name. Not too bad....

CALL SAY from KALAMAZOO has some GENIE information for you. The General Electric Network for Information Exchange (GENIE) offers its services for $5 per hour non-prime time. Everything in GENIE can be done from Pages or Menus so navigation is easy. The TI 99 Round Table includes BBS, Real Time Conferencing, and a Software/Text library. The BBS is TOPIC organized so you dont have to read every message. There is a one time fee of $18 which includes a manual and the monthly newsletter. $5 per hour for either 300 or 1200 BAUD!. You can visit free and sign up on line. Dial 1 800 638 8369. At CONNECT, Enter HHH. At the U#= prompt, Enter XJM11999.GENIE, then Enter again. Go for it you Telecommers. The price is right.

They also offered a neat MULTIPLAN Tip. Since most of us keep RECALC OFF, you can RECALC a single cell by setting the pointer to the cell, then key E for EDIT. Now press enter. Only that cell will be RECALCulated.

The KENTUCKIANA UG deals with the program loading delemma. The following files can be loaded directly into the computer:

```
PROGRAM BASIC, EXTENDED BASIC, OR E/A OPT 5
DIS/FIX 80 E/A OPT 3
DIS/VAR 80 TI WRITER TEXT FILE
INT/VAR 254 LENGTHY EXTENDED BASIC FILE
DIS/VAR 163 EXTENDED BASIC MERGED FILE
```

Other file formats are DATA files and can not be loaded directly. They are loaded within a program as required. Hope this helps.

The MIAMI AREA UG has a fix for the SPELLCHECKER FUNLWEB problem. With FUNLWRITER the program crashes on exiting the Dragonslayer spellchecker. Use the Sector Editor to change two words in spell check file UTIL2. Change 0460 0070 to 0420 0000. Works every time on Vers 3.3 of

FUNLWRITER.

The WILL COUNTY UG reviewed DISK MANAGER 99 by Mike Todd. This one loads in XB into memory and waits to be called up by a key press. You can now CAT, INIT, RENAME, DELETE, COPY, Etc. FREEWARE... watch for it.

TICOFF TICOFF TICOFF TICOFF

March 28.. 9:30 to 4:00 Roselle Park High School, New Jersey. TI Vendors, a Flea Market, UG Tables, Fairware, Speakers and events. Charlton, Hoddie, Horn, Faherty, Phillips, etc, etc.

THE ORPHAN'S SURVIVAL HANDBOOK by Ron Albright. $17.95 call 301 369 1339. This handbook is reported to contain material collected by the TI brains across the country.

The BOSTON COMP SOCIETY announces FAYUH TIME is here again. Waltham High School. 4 APRIL 10 AM to 6 PM. Freeman, Masters, Pulley, Zittrain, Charlton, Hoddie, Traver, Rosenberg, REGENA, and the Miss BECKER are all expected. Go for it...

From the QUAD CITIES UG comes this rumour: Be on the lookout for a program called Supertracker plus others. Reportedly a fast track copier. Its a fake which eats files and is hard on drives. It is a worm type program that some WORM thought up to be cute. It says to remove the disk write protect on the master. By this you shall know them. Be warned!

The OTTAWA TI FEST will be 16 MAY in NEPEAN. Man did we ever start something with our FAIRE. Hard to keep up with them all....

They report on a program written by a member, Art Green, called RAMBOSS. He has provided an even more flexible operating system for the Horizon RD. This permits operation much like Supercart.

Jim Swedlow writes in the CIN DAY NEWS on how to work the FREEWARE authors.

1. Send a SSSD disk unless told otherwise.
2. Put some good files on the disk along with a note.
3. Include $ for return postage, etc. $3 to $5 unless more requested.
4. React when you get the program. Use it..Sent $$ and a note with comments. If you cant use it, pass it along. If you have problems or ideas, write the author.
5. If you ask a question, send a SASE.
6. Be courteous. Fairware (FREEWARE) authors are 4A owners who work and/or go to school full time. Fairware is a sideline. Treat them as you would like to be treated.

IF YOU USE FAIRFARE, SEND A CONTRIBUTION. JIM AND OTHERS TRUST US TO BE HONEST AND FAIR. WHEN WAS THE LAST TIME YOU SENT A CONTRIBUTION? ARE YOU USING FUNLWRITER, PRBASE, MASS TRANSFER, ETC, ETC. THESE ARE ALL FAIRWARE PRODUCTS. BE FAIR!

For a free demonstration of COMPUSERVE dial 452-8530 in Chicago. When CONNECTED enter as follows:

HOST CIS
ID# 77770,10111
PASSWORD FREE-DEMO

TEXCOMP has announced an update on GRAPHX which includes a high speed loader and a new flip and rotate command. Send original disk and $5 to

TEXCOMP at PO Box 33084, Granada Hills, CALIF 91344. Sales after 15 OCt, 1986 were the new version.

The UG in HARRISBURG reports that PUG is a new group of PASTORS that have 4A computers. Write Steve Venable at PO Box 97, Mobeetie, Texas 79061.

The BOSTON COMPUTER SOCIETY has 68 disks at $4 each. For info write to them at One Center Plaza, Boston, MA 01208.

Writen a program that wont run? Try the TRACE Command. XB, of course. The VANCOUVER UG reminds all that TRACE is a powerful XB debugging tool. Read the TI manual. Go for it, it works.

From the SAN FERNANDO VALLEY (CALIF) UG comes a reminder that TI has released a set of diagnostic programs on disk for the 99/4A. We have them in the library for $4 to cover the three disks required. Thanx TI. Our LOVE/HATE relationship continues into the fourth year.

From FORT WAYNE (IN) UG is a neat article covering a series of new programs from Tom Freeman. One of them allows you to check for the assy lines in an XB file which includes assy code. These are those XB files that list about a dozen lines but have many more sectors in size. These are generated by programs like ALSAVE and are the rave in XB programming. When some of Tom's programs get around, I'll have more to say in my SOFTWARE REVIEW.

Phil Townsend writes in the PETERSBURG, ONTARIO UG Newsletter about the Databiotics MINIWRITER II+ Vs 2.0 that replaces Vs 1.7. 2.0 will read D/F 80 and 128 files as well as D/V 80. The 16 K Module works with only Console and tape or PEB and disk. Only fault he reports is the poor quality manual. With a grade of A+, you should take a look if word processing on a basic console is your requirement. I assume that the printer connects to the module as well.

- - - - - - - - - -

The purpose of this column is to share news about what is happening in other TI Users Groups around the country. The pictures following are from the Boston Faire held April 4, 1987. They were taken and sent to us by Cynthia Becker whom those of you who frequent the Group BBS should know well. The following is excerpts from an article by Art Byers about the Boston Faire. }

About the Boston Faire itself, Rave 99 had, FOR SALE, a PEB card to hold your Speech Synthesizer. One less item in the daisy chain to make for bad connections. Those who were complaining about not being able to have speech with the Geneve, well their problem is solved. List is $49.95 but show special was $39.95.

Another new item, was competition for RAVE's new keyboard. For $80 you got a "SMART" interface to an IBM XT compatable keyboard. (You have to supply your own keyboard.) It added the following to TI BASIC (yes you do not need XB) SPRITES including Calls of Motion, locate, position, distance, magnify, delsprite. It adds Calls Gchar, Say, Peek, load, and a size command. All with one keystroke. Most TIWriter commands are with one keystroke. NO EXPANSION BOX NEEDED. To me, this was the BEST item of the show. Order this gem from ML Systems, P O Box 268, Valley Falls, RI 02864.

Those of you 99'ers who were within any reasonable distance and did not

brave the rain to make this event SURE MISSED OUT. You GOTTA make it next time. -Art Beyers

THE PASCAL ADVENTAGE

MIKE MAKSIMIK

This month, we'll discuss the 'extras' you get with U.C.S.D. Pascal version TI. I am doing this because of recent bragging by the Germans on their version of Turbo Pascal for the TI. All of you say, "Why should I waste time with a P-code system when there is a new low-cost pascal on the way?" Well, the p-system offers many other languages as well, and I will support all versions of pascal, whether it be p-system or Turbo or (GULP!!) VAX pascal. What makes UCSD pascal superior are it's extensions: string standard types and functions/procedures to handle strings; multitasking, speech, sound, segments, units, sprites, etc. Our main topic for today are two of the features mentioned: Sound and sprites. Our Pascal SIG is currently working on a different program, one that will combine the programming talents and expertise of all it's members: A music composition/conduction program. SO WHAT you say. Well, pascal is much more superior in it's sound handling routines than TI basic. There are 27 different procedures/functions for handling sound, as opposed to the limited call sound statement. How could anyone put up with such nonsense as one sound statement? It must have been horrendous putting together all of those BASIC and EXTENDED BASIC songs, working out timings and voicelines, not to mention synchronizing the song with the display. But in pascal, all of the hard work has been done already for you. Sound occurs simultaneously with the program, plus it provides flags for controlling the program or sync'ing it with the program. Sprites work similarly. Once you define their attributes (color, speed, duration, x-y locations, and sizes) you can set them in motion and have them follow a pattern, still allowing you to process information with the computer. Great for games and simulations! Imagine having songs playing and motion on the screen, like an arcade game, and still have the computer try to calculate the value of PI!!!

On to other topics. Some of you ask, "I hate fun. Is there anything else besides your stupid sound and graphics?" Well, yes. I mentioned a thing called segments. Segments? Yes, segments are a neat way to save memory and still run a huge program. We are all familiar with the RUN "DSK1.program" command/statement. In pascal, two such ways to equate this feature exist. One is the CHAIN procedure, in the form CHAIN('#4:yourfile.code'); and with segmenting. When you have a procedure/function or part of a program that is only used very little in comparison to all other procedures/functions, you can declare it as a segment:

```
SEGMENT PROCEDURE EraseTheDisk(HaHa:integer;Funny:boolean);
```

By doing this, the program is compiled as usual, but this procedure remains on the disk until it is needed. Then, when the main program invokes it, it is instantly loaded and executed. When the procedure is finished, the main file is reloaded and execution continues where it left off. One may define up to 255 such procedures/functions in a program, with limitations. For example, no segment may contain assembly language. However, you may create a UNIT for that. Also, all SEGMENTs must be declared before any regular routines. Any regular routines that are called by the SEGMENT routine must be forward declared, that is, the routine's header must appear before the segment's definition, as a forward reference. Refer to pages 98-99 of the compiler to see some examples of these definitions.

Segments optimize memory for large programs that have little-used routines that may be executed once or twice. All variable values passed to/from the segment are saved, and the original program will retain it's values too. This is because of the unique stack

and heap structure of the p-system.

Earlier I mentioned UNITS. Several units were provided for the pascal programmer by TI and are contained in the file SYSTEM LIBRARY on the compiler diskette. These UNITS are regular pascal procedures, functions, and segments that have been pre-written for you. You need only specify the disk that the unit resides on and the unit itself to take advantage of these features. For example if I wanted a program to use speech, I would put the following statement directly after the program heading:

USES (*U #5:SYSTEM.LIBRARY) SPEECH;
This would USE the unit speech on drive 2. For you single drive people, the compiler directive (*U #5:SYSTEM.LIBRARY) is unnecessary. Simply omit it.

Some of the procedures ignore the directive. That is because when they were compiled as SEGMENTS within the UNIT, the programmer who wrote them specified a certian drive to access the segments. For example, USES SUPPORT can be gotten from the system.library on any drive, but when the file is executed, it must be in the same drive as the main program. This limitation can be overcome using various compiler directives, although I haven't tried them yet.

In closing this month, I would encourage all p-code card owners to attend our SIG. Don't be shy if you know nothing about it. That's what the SIG is for , to help you learn. You can get in on a great project, too. By the way, for all you non-p-system owners, Rumor has it (YES, you heard it here) that Triton products of California has a limited supply of p-code cards for sale. They come without manuals, but you can get them free from TI. And support software is available in the SIG. So join the bandwagon. If not p-system, then the new German Turbo Pascal. I would very much like to do a review of this software package, and of UCSD ForTran, Modula-2, and Pilot. Next month: watch for data structures and algorithms (nee CS331 at IIT!)

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We are now a distributor for ASGARD SOFTWARE. Please call or write for what you would like(REMEMBER-WE WILL SHIP ANY SOFTWARE ORDER FOR ONLY A $2 FEE UP TO $100 VALUE, AND $3 ABOVE THAT-call for heavier hardware orders)

GENEVE-the new computer has been delayed till approximately May 1
Call if you need further details.(Many have seen Myarc's flyer)
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VOL.1-ANIMALS1-A collections of domestic,wild, and fanciful animals
VOL.2-ANIMALS2-more familiar and rare animals to decorate @ enchance creations
VOL.3-HOLIDAYS-dedicated exlusively to those very special days of the year
VOL.4-HOME-vast library depiecting implements of the home @ repair of items
VOL.5-PEOPLE-Famous @not so famous people individuals for populating your works
VOL.6-COMPUTER-Artwork about computers with office implements, transport.,@ etc
TOTAL FILER-used for organizing-requires Editor Assembler
TOD EDITOR-create your own Tunnel of Doom programs
HIGH GRAVITY-a sophicated simulation of space flight(Editor Assembler required)

library shelf

— Bob Demeter —

Before I get started with this month's article, I'd like to say something on a more personal note. I'd like to take this opportunity to THANK my many many friends for all they've done during my recent illness. Your cards, prayers, calls, offers of assistance to my wife, and messages on the bulletin boards have touched me deeply. Words can not express the feeling, knowing I have friends like this. I want to express a heart felt thankyou from myself and family for all you've said and done. Your kindness and caring has been a real boost in my recovery. Speaking of which, the lite is green. My doctors have said the heart attack was very mild and did no damage. A few pills here and there, a change of diet and I should feel like 23 again. Well, maybe 33. Anyway, that's all behind me now and it's time to concentrate on library work and attending the next meeting. Only 2 more meetings till the summer break. Think I'll make the 50% attendance mark? Before I get off the subject, I want to say one thing. Thanks again from the bottom of my heart. My love to all. May GOD bless you and keep you all the days of your life. -bd

OK, how about some library stuff? After all, isn't that what this article is about? Here's a reminder. This is your library. We appreciate your contributions to make it grow. Donations to the library can be made in several ways. 1) You can upload the program to the user group's BBS (312 966-2342) 2) You can hand your program to a librarian at the meeting 3) You can mail your program to the user group P.O.Box 578341 Chicago, Ill. 60657 . If your program is accepted into the library, you will be allowed one free program from the library. Your disk will be returned to you. Those allowed free programs should provide us with a disk. This can be done at the meetings or via mail. You may take your programs one at a time or let them build up to fill a disk. If you want your disk mailed back, please provide proper postage. If you wish to leave your request at a meeting, you can pick your disk up at the next meeting. Sorry, because of limited time and growing lines, we can not make individual programs at the meetings. If you are eligible for free program(s) here is how you will know. We will post a list at the meeting indicating how many programs you have coming. If you can't make the meetings, I will also post this list in the news letter. You will notice the library has grown by almost 50%. With the help of our users, we may soon boast to have the largest user group library around. All monies from library sales goes back into the group. This helps defray some of the costs the group incurs during the year. Besides the Faire, the group has many bills most users don't even realize. For example, we mail out over 800 newsletters a month at 56 cents a piece. We must carry insurance to protect ourselves and buy software for the raffles. So keep those great programs coming in. When you help the library, you're helpping the group. One last note. The programs you donate don't have to be original works of art. They can be any public domain or fairware program not already in the library.

Hey, how 'bout that new library listing??? 100 disks in our library. As usual, John Behnke has worked his tail off to provide us with another

great library listing. Thanks John for all the time and effort you've put into the library and the listing. The book is beautiful and our library is by far, one of the best around. Everyone please make sure you purchase a copy of the new library listing. They are a mere $1.00 . There is a slight postage charge for mail orders. I'll let you know what the postage is as soon as I get one weighted.

Guess who has a new Fairware program out? WRONG!!! It's Barry Boone. Mr. Boone has taken an already great program and made it even better. Barry's new program is called ARCHIVER II. This program will pack and unpack several files into one filename. So what you say? We already have at least 3 of them. BUT, not like this one. First off it's written entirely in assembly language and is extremely fast. Second, it has a feature none of the others thought of, a cataloger. How many times have you started to unpack a file and couldn't remember the filename? About 60% of the time myself. Then it's take out the catalog program, catalog the disk, then reboot the archiver program. Not now. Just hit option 3, choose drive 1-5 and away you go. Hit enter and start unpacking. This program does require E/A option 3 and 32K memory. Remember it's fairware and the fairware concept. Donations are greatly appreciated. 1 SS/SD disk $2.00.

Jack Topham was nice enough to send me some fairware disks. He had a note attached saying his article says these programs would be available at the next meeting. Beings my mail came in about an hour before I left for work and I'm finishing this article up the morning of the 15th, I didn't have too much time to review them. I did manage to play a little with an invoice program. This program by the Nevada 99er's User Group prints out some really nice business type invoices. Matter of fact, I liked the program so much, I may just start using it for my own little computer business. You customize the program to print your name, address and phone number in bold print in the upper left hand corner. Then it asks for an invoice #. You then provide the customer's name and address. Next it asks for a date and description of the item sold. Next you list charges and credits. When you enter a blank line, the program automatically totals the charges. It even has a place to add shipping and handling charges. It really looks very professional. It almost looks like the invoices Asgard (tm) and Texaments (tm) use. I like it. 1 SS/SD disk $2.00.

Jack was also kind enough to send along version 6 of Mark Beck's Creative Filing System (CFS). He sent along 3 disks for this program. I'll have to check it out to see if it's a 2 or 3 disk set. The original was only 2. I'm sure it still is and the 3rd disk is a user disk. Jack will probably have more to say somewhere in this newsletter.

At the last meeting, I was going to demo a group of fairware programs called ML Utilities by R.A. Green. This group consisted of a disk cataloger and copier. It is a sector to sector copier that works on 1 or 2 drives. It will also copy 1 or 2 sided single density disks. The next program was an initializer. It inits. 1 or 2 sides single density. Also included was a printer setup program. This program had a 2 page menu of printer setups. Just about everything you could think of was listed. The 4th. program was a terminal emulator. This program does not have a transfer section to it. But it does have a couple of really nice features. The screen update is faster then any term. program I've ever used. At 1200 baud, text flys by my screen almost as fast as 2400 baud. This program also has a 590 line buffer. I called the user group

board, read all the messages and got off. The buffer was nowhere full. Also, the buffer can be dumped to disk or printer. For you users out there that have just undergone rate increases from Ma Bell, this is it. Now you can still check out the UG BBS at what seems like 2000 bps, get off and read the messages at your leisure. For the small sum of $2.00, how can you go wrong?

Well, that's about all I have to say this month. I should be at the May meeting with copies of all the fairware available and premade copies of all 100 regular library disks. I am going to try to have enough copies made so we won't have any big lines at the library table. We'll see what happens. It's hard to estimate what the demand is going to be from month to month. Take care all. See you soon.
Bob

PRACTICAL PROGRAMING PRACTICES

The following is a short program that can be used to decipher the Jumble Puzzles that appear in the daily newspapers. It was submitted by Jim DiNovo.

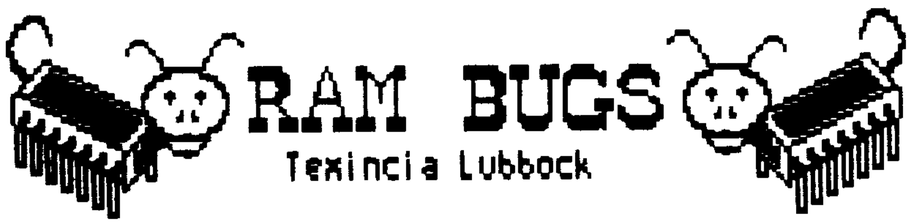
```
10 CALL CLEAR
20 RANDOMIZE
30 INPUT " WORD TO SCRAMBLE ":W$
40 FOR Y=1 TO 10
50 FOR I=1 TO LEN(W$)
60 R=INT(RND*LEN(W$)+1)
70 IF A(R)THEN 60
80 A(R)=I
90 X$=X$&SEG$(W$,R,1)
100 NEXT I
110 N$(Y)=X$ :: X$=""
120 PRINT N$(Y);" ";
130 FOR I=1 TO LEN(W$)
140 A(I)=0 :: NEXT I
150 NEXT Y
160 INPUT "REPEAT THAT WORD Y/N ":AN$
170 IF AN$="Y" THEN 40
180 STOP
```

TRADING TIMES

In case you missed it at the March meeting and are interested, Larry has a system for sale that includes PEB, 32K, SS drive, printer and software for sale for $400.00 or best offer. You can reach him at 815-744-1872.

Also, Stan Way at Box 154, Iberia, Mo. 65486 has the following for sale: a TI 99/4A computer, Seikosha printer with Axiom direct connect interface, ribbons, 2 RF modulators, 2 sets cassette cables, Mini Mem, XBasic, and assorted software. He will sell for $200 plus shipping to anyone who is interested. His phone # is 314-793-6415.

Bruce Willoughby has the following that he wishes to sell: console,PEB, 32K, RS232, controller, half height Qume Drive, speech, EA, XBasic, Forth, TEII, Mini-Mem. All are in good condition and he is asking $600 for the lot. You can contact him at 309 Dickinson, #8, Springfield, Il 62704.



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After READING AND RE-READING the article written by *SANDY BARTELS* - which appears in another section of this newsletter this month - I must admit I lost little, if any, sleep. Honestly, *SANDY*, don't you think you should CHILL OUT just a bit! Some people, *CHUCK LEVITT* for example, were HONORED to be included in last months column!

Tell me, did you already know how to spell *"OMNIPOTENT", "DIATRIBE", and "PSEUDONYM"* or did you have to call *DON (the Dictionary) JONES* to ask HIM how they were spelled?

I too receive letters, DEARIE, and have given one to *CAROLE* this month to be published in the *LETTERS COLUMN*. Read it and weep!

SPEEDY RECOVERY go out to *BOB DEMETER* who, rather unfortunately, suffered a heart attack on the way to the APRIL MEETING! After spending less than a week in the hospital, he is well on his way to a complete recovery, even back to work I understand. *BOB* spent the entire night prior to his illness getting disks ready for the Group Library - a tribute to his dedication to the rest of YOU!

There are, however, OTHER WAYS to legitimately miss a meeting, *BOB*. You should take an example from *DAVE HAKELY* who spent a week or so enjoying the SURF, SIN and SUN on the SANDS of *HAWAII*. (Loved the LEI you sent, *DAVE*, it was very thoughtful!)

BUZZ, BUZZ, BUZZ, BUZZ, BUZZ, FATHER BUZZ ?!? When were you ordained and where is your Parish located, I'll bet your congregation has a lot of fun!

In spite of the fact that there were no CONSOLES available at last months meeting, I thought *SAM (the Hot Dog) PINCUS* did an EXCELLENT job of conducting the impromptu Q A session. That meeting was probably the most informative, educational and enlightening meeting I have attended to date - just ask the Lady in the Turquoise sweater. Thanks for saving the day, *SAM*!

I understand, however, that *MR HAKELY* is losing his patience (not to be confused with his patients) over the unintelligent engineering behind the concept of the interface of the *TURBO XT* to the *TI*. It should be interesting to see how pleased *DAVE* is with his new toy when he brings it to the next meeting.

If anyone has a *GENEVE* by that time, they should bring it to the meeting, too. Let us know in advance and we will retain the service of

PETER HODIE to play *DUELING BANJOS* on the *TI* while the owners of the *TUBOR XT* and *GENEVE* laud their virtues in comparison to the *TI*. Is more really better? Is newer really faster? Is *IBM* really compatible? Is the frustration really worth the effort? Find out at the meeting!

Remember, only one more meeting after this month before Summer Vacation. Last year I roller skated across the continent. This year I have decided to seek out the pleasures of other User's Groups and meet the people associated with those groups in other cities. I don't know if my feet can take another summer's travel by skates, but in any case, I promise to be back for the *PICNIC*, providing *SAM* gets the DUNK TANK this year. I have several people I would like to take further aim at, but to do so in this column behind a "pseudonym" would only make the bearings squeak louder.

See you at the meeting!

99/4a SUPPORT

Myarc's Geneve 9640 Computer	
with pc-type keyboard	$500.00
with enhanced keyboard	$530.00
JOY PAINT '99 with clip art disk #1	$39.95
JOY PAINT'S PAL	$9.95
CLIP ART DISK #2	$9.95
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For the GENEVE please add 2% shipping.
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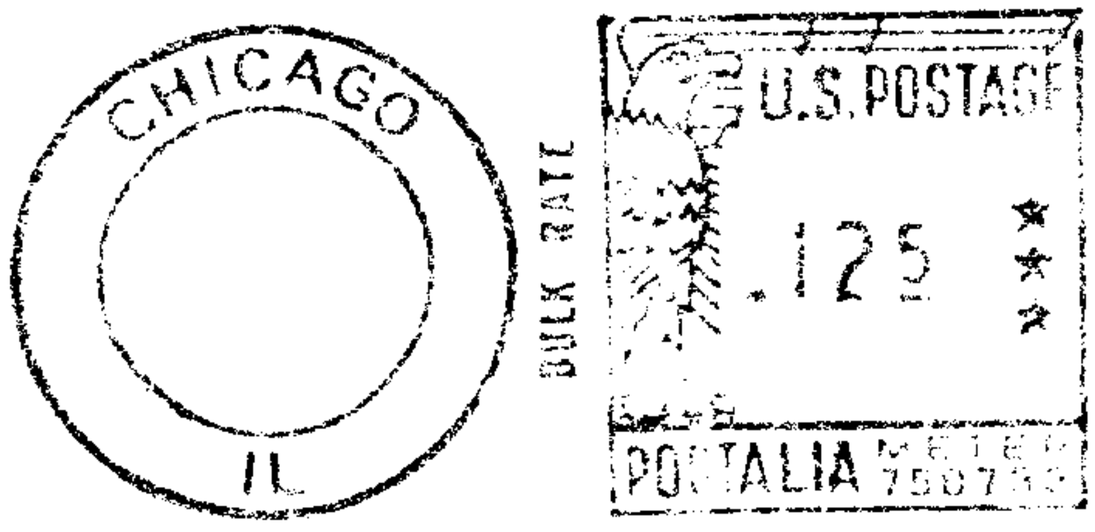

REMARKS

Carole Goldstein

I know the entire group wishes Bob Demeter the best of health during recovery from his recent illness. I know there were many people who were very concerned when Bob did not appear at the last meeting. Bob suffered a heart attack on the way to the meeting. He is OK, home and doing well. We expect we will see him at the May meeting.

We also wish the best to Al Stump who has some health problems of his own. Due to his illness this month there is no HARD TIMES article. Hopefully all will be back to normal next month.

Special thanks this month to Cynthis Becker from all those who have always wondered who or what REGINA is and what is going on in the TI World outside our back yard, for sending the pictures included in this issue. Many of the people attending the Boston Faire are also members of our group. Maybe some of you will see your picture there.

Following the pictures are excerpts from Art Byers on his reaction to the Faire. Elsewhere in his article he estimated that there were about 400 in attendance. Everyone was as enthusiastic as they were at our FAIRE. Its nice to see something that we started carried on throughout the country.

See you at the meeting.